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Revision of the Genera and Species of the Tineid Subfamilies Amydriinae and Tineinae inhabiting North America.

BY WILLIAM G. DIETZ, M.D.

The present essay is the result of studies, carried on over a period of about three years, of our North American species of the Microlepidopterous family Tineidae in its restricted sense, or more explicitly stated, in the sense of the older authors, exclusive of the Adelidae and Taliporidae. The pursuit of these suffered many interruptions and encountered not a few difficulties. The former chiefly due to professional duties, the latter: 1st, to the comparatively small number of well authenticated and recognized species among the large number enumerated in our lists and found in collections; 2nd, the descriptions, scattered among various publications, principally periodicals and long out of print, are often defective and leave much to be desired to enable a positive identification of a given species.

Fortunately, however, the existence of Dr. Clemen's types in the collection of the American Entomological Society, at the Academy of Natural Sciences, Philadelphia, and a number of the types of Mr. Chambers and several of Prof. Zellers, in the Museum of Comparative Anatomy, Cambridge, Mass., has enabled me to examine and study these and thus clear up many doubtful points not possible otherwise. In this connection I wish to express my special obligation to Prof. Samuel Henshaw of Cambridge, and also to Dr. Henry Skinner of Philadelphia for the courtesy and assistance extended to me on these occasions. I likewise wish to express my deep appreciation to my friend and colaborer, Mr. A. Busck of Washington, D. C., for much valuable advice, loan of material and

transcripts made from publications not in my possession. To Mr. W. D. Kearfott I am indebted for some very interesting material.

Dr. Dyar in his most valuable "List of North American Lepidoptera, etc.,"* has given a complete index to the literature of the genera and species described up to the time of its publication. I shall therefore simply refer to this list, giving page and number of species. The only exception to this are three species described by Mr. A. Busck since the publication of Dr. Dyar's work.

To claim that this paper shall be exhaustive of the subject would be ludicrous, that it be free from error, worse than folly. I have endeavored to clear the way to some extent at least of the many difficulties to be encountered by the student of this division of our North American Micro-lepidoptera.

Passing now from these introductory remarks, I shall briefly indicate the limitation of the subject treated of. This is practically included in the family Tineidæ of Prof. J. B. Smith's List of Lepidoptera of North America, edited 1901, to which must be added the genus *Amydria* Clem., which for some unaccountable reason is there placed among the Gelechiidæ. However, while the genera in this as well as in subsequent lists, are placed side by side, without further systematic arrangement, the recognition of a character, apparently overlooked heretofore, has necessitated the division into two subfamilies of the large family Tineidæ, as defined by Mr. E. Meyrick,† and generally accepted by entomologists here and abroad. These two subfamilies are distinct and sharply defined and one of these, the Amydriinæ, owing to the more or less distinct furcation of vein 1b of the hindwings, should follow immediately after the *Tortricina*. Among the Tineinæ, this character occurs only—as far as I know—in *Breckenridgia* and is accompanied by vein 1e being present.

The two subfamilies are thus characterized as follows:

Head rough-haired or almost entirely smooth-scaled. Tongue and maxillary palpi rudimentary. Labial palpi strongly developed, porrect and more or less ascending, second joint with a brush, more or less developed, or simply thickened with scales beneath, terminal joint pointed, erect, or rarely (*Apreta*) obtuse and depressed. Vein 7 of forewing to costa or rarely to apex, 1b furcate at base. Hindwings as wide as the forewings, vein 1b more or less distinctly furcate at base, 1e always distinct **Amydriinæ.**

Head entirely rough-haired. Maxillary palpi well developed, polyarticulate and generally plicate; very rarely (*Tineola*, *Tenaga*.) rudimentary. Antennæ never exceeding length of forewings, basal joint not dilated into an eyecap. Vein 7 of forewing to costa. Hindwings with vein 1*b* simple at base (except *Breckenridgia*); 1*e* often absent.

Tineinae.

Subfamily AMYDRIINÆ.

Head entirely rough haired (*Amydria*, partim), or scales more or less closely appressed, at least the face, occiput generally more or less rough, either in a whirl each side behind the eyes, or a border of coarse, erect or recurved hairs. Tongue and maxillary palpi obsolete. Labial palpi well developed, ascending, rarely (*Apreta*) with the third joint depressed; second joint with a brush of stiff hairs (*Amydria*), or simply thickened with scales beneath, and with stiff setæ along the outer margin, flattened in *Setamorphu*; third joint flattened (except *Amydria*, partim and *Parancura*). Antennæ nearly as long as the forewings (except *Amydria*); simple, or rarely biciliate in the male (*Paraplesia*); eyes generally small, not very prominent. Forewings elongate elliptic to lanceolate, 12 or 11 veins, 7 to costa, or rarely to apex; 1*b* furecate at base. Hindwings ovate to ovate lanceolate, about as wide as the forewings. Cilia not exceeding 1. Legs of moderate length; tarsal joints rarely (*Apreta*, *Epicheta*) with an apical whirl of spinules.

The species, with few exceptions, present a rather uniform and characteristic habitus. The general coloration in almost all, some shade of ochreous, with dark markings, the latter rather variable and rarely sharply defined. It should be noted that the present subfamily is nearly equivalent to Lord Walsingham's subfamily *Setomorphinæ*,* but as his definition would exclude the genus *Amydria* I prefer the term here adapted.

The genera recognized are distinguished as follows:

Second joint of labial palpi with hair brush beneath; fore- and hindwings with all veins present and free. **Amydria.**

Second joint of labial palpi thickened beneath with scales; third joint flattened; veins not all free.

Third joint of labial palpi erect, smooth, or with a few isolated setæ. Joints of hind tarsi without apical whirl of spinules.

Antennæ of male biciliated; head rough-haired. **Paraplesia.**

Antennæ of male not biciliated; scales of face and vertex more or less appressed.

* African Micro-Lepidoptera, Trans. Ent. Soc. Lond., 1901, p. 81.

Both wings with veins all present.

Vein 7 of forewing out of 8.....**Paraneura.**

Veins 7 and 8 of forewing out of 9; veins 3 and 4 stemmed.

Setomorpha.

Forewing with 11 veins, 7 and 8 out of 9.

Hindwings with 8 free veins.....**Epilegis.**

Hindwings with 7 veins; 5 and 6 stemmed.

Veins 5 and 6 of forewings stemmed.....**Apotomia.**

Veins 5 and 6 of forewings free... ..**Semiota.**

Third joint of labial palpi with spreading bristly hairs; joints of hind tarsi with apical whirl of spinules. All veins present.

Third joint of labial palpi broad and very short, depressed; veins 9 and 10 of forewings free.....**Apreta.**

Third joint of labial palpi erect; veins 9 and 10 of forewing long stemmed.

Epichaeta.

AMYDRIA Clem.

Dyar, List of North America Lepidoptera, p. 573.

Head rough-haired, scales of face partially rough to more or less closely appressed. Maxillary palpi rudimentary. Tongue wanting. Labial palpi strongly developed, curved, ascending, second joint with a brush, more or less dense, beneath and generally with lateral setæ; third joint rarely as long as the second, either compressed laterally or flattened. Eyes small, hemispherical, prominent. Antennæ robust, scarcely more than one-half the wing length, joints close set with verticillate scales. Forewings elliptic, apex more or less rounded. All veins present, free, vein 1*a* furcate. Hindwings as wide or wider than the forewings, oval, cilia under one half. All veins present, free; vein 1*b* furcate at base. Posterior tibiae rough haired.

Moths of more than average size, with few exceptions. The type of the genus is *A. efrenatella* Clem., and besides *A. clemensella* Chambers, the only species heretofore described. The species now known having considerably increased in number may conveniently be arranged into three groups, as follows:

Third joint of labial palpi compressed laterally. Head more coarsely rough haired; scales of face less closely appressed, giving the front when viewed laterally a gibbous appearance. The head, viewed from above is scarcely wider than long. The brush of the labial palpi very dense and nearly perpendicular to the axis of the joint..GROUP I.

Third joint of labial palpi flattened; scales of face more or less closely appressed.

Species ochreous, as ochreous brown, rarely—*onagrella*—gray as grayish fuscous. Dorsal margin of forewings without markings, cilia generally with dividing line, never barred; brush of first joint of labial palpi feebly developed, lateral setæ less evident.....GROUP II.

Species gray to dark fuscous-brown. Dorsal margin of forewings with markings, cilia more or less distinctly barred. First joint of labial palpi with distinct brush and lateral setæ strongly marked ... GROUP III.

SECTION I.

The four species comprising this section may be separated as follows :

Forewings less elongate, apex broadly rounded.

Markings of forewings not confluent **brenipennella**.

Markings confluent..... **efrenatella**.

Forewings elongate, apex obtusely rounded.

Larger, 20-23 mm.; ground color grayish-ochreous **coloradella**.

Smaller, 14-15 mm.; color pale ochreous..... **arizonella**.

A. brevipennella n. sp.—Pale ochreous as bone-yellow. First and second joints of labial palpi fuscous, except apical part of latter, brush large, scarcely extending beyond end of second joint, third joint fully as long as the second, pointed, slightly compressed, thinly dusted with fuscous. Vertex and antennæ ochreous-brown, the latter rather stout. Thorax ochreous-brown, tinged with fuscous and having somewhat of a metallic lustre. Abdomen dusted with fuscous. Forewings rather wide, oval, costa evenly arched from base to apex, latter broadly rounded, pale ochreous, dusted and marked with fuscous. A large rhomboidal spot at base of costa extending to fold, another large spot at one-third, beyond the latter are two or three small dots, and beyond the middle are five costal spots, decreasing in size, the first two of these extend more or less distinctly into the disk and are connected with a large, nearly quadrate spot at the end of cell; a row of spots, more or less connected at base of dorsal cilia, immediately below the two basal spots on the costa, are two longitudinal dashes, a streak on the fold, more or less interrupted, several dots above end of fold. Cilia pale ochreous, with dark dividing line. Hindwings grayish ochreous, finely dusted with fuscous, cilia paler with well marked subbasal line. Underside of wings grayish fuscous. Body beneath and legs, silvery grayish white, anterior and middle legs strongly spotted with fuscous brown, tarsal joints pale at apex.

Exp. 14.0-15.0 mm.; 0.56-6.0 inch.

Hab.—District of Columbia, Maryland (Plummer's Island).

Numerous specimens were taken at above localities by Mr. A. Busek, who also has kindly placed several specimens in my cabinet. Quite distinct; its nearest ally is *efrenatella* Clem., which it resembles in markings, but from which it differs by the relatively shorter forewings, broadly rounded at the apex.

A. efrenatella Clem. (Dyars List, p. 573, No. 6534).—General color ochreous. Labial palpi except the third joint, dark fuscous externally, slightly so within, brush very dense, third joint pointed, distinctly compressed, scarcely as long as the second. Head, antennæ and thorax ochreous-brown, the latter fuscous anteriorly. Forewings rather wide, costa feebly curved from the base and again

towards the apex, the latter rounded, dorsal margin more strongly curved toward the apex, dusted more or less densely with dark fuscous scales, aggregated into more or less, transverse strigulations; costo-basal part of wing dark fuscous, a row of five or six costal spots before the middle, beyond the latter are five larger costal spots, decreasing in size; a large patch at end of cell, a large irregular discal patch at one-third, another spot at one-half and one above the fold, all the larger patches more or less distinctly confluent, the first two or three larger costal spots beyond the middle are also connected with the large spot at end of cell. A row of spots along base of dorsal cilia of which the first one is usually larger and more conspicuous; veins generally darker. Cilia concolorous with broad, irregular median dividing line. Hindwings grayish ochreous; cilia with dark subbasal line. Abdomen above ochreous fuscous, anal brush ochreous, underside and legs dusted with fuscous.

Exp. 16.0-20.0 mm. 0.64-0.8 inch.

Hab.—Pennsylvania, New Jersey (Montclair, Kearfott); Massachusetts.

Probably occurs over the whole northern Atlantic district. Dr. Clemens' statement, that the male has more of the yellowish hue than the female, I cannot verify; a male specimen in my collection has the ochreous ground color almost obscured by dark fuscous scales.

A. coloradella n. sp.—Very similar in coloration and markings to *A. efrenatella* and from which it differs in the following points: Larger size; general color more brownish ochreous; labial palpi scarcely darker externally. Forewings narrower, more elongate and more pointed at the apex, markings less pronounced in color and less confluent; a conspicuous dash beneath the fold near the base, sometimes split into spots.

Exp. 20.0-23.5 mm.; 0.8-0.94 inch.

Hab.—Colorado (Denver, Durango, Co.); Arizona (St. Rita Mountains); California (Kaweah).

A. arizonella n. sp.—Face and labial palpi whitish ochreous, second joint of latter dark fuscous externally, third joint a trifle longer than the second, slightly fuscous externally, scarcely compressed. Vertex and antennæ sordid ochreous. Thorax grayish-ochreous, patagia fuscous anteriorly. Forewings elongate; costa slightly arched from the base, a little more so towards the apex, latter obtusely pointed; ground color pale ochreous, markings dark brown and almost confined to the costal half of the wing, the apical part of the wing and the subplical space conspicuously free except some small dots and marginal spots; a large patch at base of costa extending to fold, beyond this a row of spots along entire costa, subconfluent in the basal half, two of these spots at about two-thirds the wing-length are larger and connected with a spot at end of cell, beyond these are three distinct, though smaller spots; from the basal patch extends a row of irregular patches toward the spot at end of cell and between these and the costa the space is dotted with smaller spots; a row of spots along the base of dorsal cilia and around the apex. Cilia pale with darker line. Hind-

wings grayish-ochreous. Cilia paler. Abdomen and legs grayish ochreous, more or less dusted and spotted with fuscous.

Exp. 14.0-15.0 mm.; 0.56-0.6 inch.

Hab.—Arizona (Phoenix, Hachuca).

Two specimens in my collection.

SECTION II.

The species placed in this group are distinguished as follows:

Ochreous, or dull ochreous.

Costal spots inconspicuous.

Larger, 22.0 mm.; ochreous brown.....**apachella**.

Smaller, 12.0-13.0 mm.; ochreous.....**clemensella**.

Costal spots conspicuous.

Forming curved strigæ.....**curvistrigella**.

Spots simple not curved.....**pandurella**.

Pale, ochreous white; spot on the fold near the base inconspicuous as wanting.

confusella.

Gray, as grayish-fuscous; a large conspicuous spot on fold near the base.

ouagella.

A. apachella n. sp.—Pale grayish-ochreous. Brush of labial palpi more or less fuscous externally, the third joint nearly as long as the second, fuscous above and somewhat flattened. Head and antennæ dark ochreous. Thorax, especially the anterior part and patagia overlaid with purplish fuscous. Forewings elongate, of approximately equal width; ground color pale grayish ochreous with a somewhat satiny lustre and dusted more or less densely with fuscous-purplish scales, the latter strongly condensed in the costal half of base; markings ill defined, a large spot at end of cell, four or five rather large dots along base of costal and some less defined ones along base of dorsal cilia. Hindwings thinly overlaid with pale fuscous scales; cilia concolorous. Apical part of abdomen and anal brush pale fuscous. Anterior legs fuscous externally, tarsal joints paler at apex.

Exp. 20.0 mm.; 0.8 inch.

Hab.—Arizona (Williams); U. S. Nat. Mus.

Another specimen from Catal Springs, Arizona, is a little paler and has the circum apical dots of forewing a little more distinct.

A. clemensella Ch.

Mr. Chambers describes this species as follows:

"Yellow, the palpi are a little paler, except the outer surface of the second joint. Primaries with minute brown spots arranged in transverse rows; these require close observation; one spot on the fold and one on the end of the disc, a little larger than the others. Al. ex. one-half inch. There is also a row of small fuscous spots around the base of the ciliæ."

Hab.—Texas.

I have not seen the type of this species and am not aware of its existence. Chambers refers this species doubtfully to the genus under consideration. A specimen in my collection from St. Louis, Missouri, I refer to it; the transverse strigæ consisting of small brown dots are very distinct.

A. curvistrigella n. sp.—Entirely ochreous; face paler, scales more appressed. Patagia in front slightly infuscate. Forewings elongate, very thinly sprinkled with pale brown scales, forming fine strigulations on the margins of basal half of wing and more distinct on the costal than dorsal margin; costal part of base somewhat fuscous; on the costa, beyond the middle are five or six conspicuous spots, which with the exception of first and second, form a curved line one-third across the disc, opposite to these are some small dorsal spots and between these some indistinct, transverse lines; a rather small, though distinct spot at end of cell. Cilia concolorous, dividing line indistinct. Hindwings pale grayish ochreous. Abdomen and legs slightly dusted with fuscous.

Exp. 21.0 mm.; 0.84 inch.

Hab.—Arizona, (Phoenix).

Two specimens in my collection.

A. pandurella n. sp.—Ochreous; second joint of labial palpi speckled externally with fuscous, brush projecting forward nearly the length of third joint, the latter flattened and shorter than the second. Front smooth-scaled, pale ochreous, vertex and thorax slightly intermixed with brown. Forewings elongate, moderately pointed, thinly speckled with pale fuscous scales, costa at base, five large costal spots from middle to apex, six smaller dorsal spots along base of dorsal cilia, a large spot at end of cell, another spot midway between it and the base in dorsal half of wing, a dash below the fold at one-third, all dark fuscous. Cilia with median dividing line and speckled with fuscous in basal half; underside of wing pale fuscous, showing marginal spots. Hindwings grayish ochreous, cilia with wide subbasal line. Abdomen above somewhat dusted with fuscous, sides fuscous, underside and legs very sparsely dusted with darker scales.

Exp. 13.0-17.0 mm.; 0.52-0.68 inch.

Hab.—Arizona (Phoenix); California (Pasadena).

Two specimens, ♂ and ♀, in my collection. Smaller than the preceding and particularly characterized by the conspicuously large costal spots. From the following, *A. confusella*, with which it might be confounded, it differs by its more deep, ochreous color, its wider and less elongate forewings and the distinct discal spots.

A. confusella n. sp.—Pale ochreous with satiny lustre. Palpi slightly infuscate externally, brush rather dense and not projecting beyond joint, third joint flattened, as long as the second. Vertex intermixed with grayish. Forewings rather narrow, pointed, margins nearly straight, speckled with small brown dots, forming transverse lines more or less entire; costa at base fuscous, five dis-

inct costal spots from middle to apex, connected by indistinct transverse stria with less conspicuous spots along the base of dorsal cilia; a large spot at end of cell, another spot immediately above the fold and opposite to the first costal spot, a small spot on the fold near the base. Cilia pale ochreous, dividing line indistinct, speckled with fuscous scales. Hindwings pale, cilia concolorous. Abdomen above slightly dusted with fuscous, underside of body and legs grayish white.

Exp. 13.0-17.0 mm.; 0.52-0.68 inch.

Hab.—California (Pasadena).

Eight specimens in my collection. The costal spots in some specimens appear somewhat curved and might thus lead to confusion with *curvistrigella*, but the species under consideration is smaller, much paler and the forewings relatively narrow. In two specimens are two distinct longitudinal spots in the apical part of the wing and parallel to the dorsal margin.

A. onagella n. sp.—Ochreous-fuscous. Second joint of labial palpi ochreous within, fuscous externally, brush not projecting beyond the joint, third joint flattened, dusted with fuscous above. Head brownish ochreous, intermixed with dark fuscous on the vertex. Antennæ paler. Forewings moderately wide, costa more distinctly arched from the base and again towards the apex, the latter obtuse; general color a sordid-ochreous fuscous, the purplish-fuscous scales condensed on the basal part of the wing excepting the fold; immediately following this dark colored basal patch is a space rather free from the dark fuscous scales, after which, however, they form irregular, transverse lines, less evident in the subapical space, the first of these transverse lines is somewhat curved and ends in a large subquadrate spot at one-third of the fold; space along the costa darker, numerous, ill-defined dots on the costa before the middle, and beyond these are six or seven well-marked costal spots, the first one of which is before the middle and five or six dorsal spots along base of dorsal cilia, the two first of these are more conspicuous. A large spot at end of cell, another on the fold at about two-thirds its length, between the spot at end of cell and the base of the wing is a distinct, though smaller spot, placed midway between costa and fold. Cilia grayish fuscous with broad dividing line, underside of wing fuscous. Hindwings grayish fuscous, cilia concolorous with dark subbasal line. Thorax and abdomen above fuscous brown, anal brush paler. Underside of body and legs grayish fuscous, spotted and tinged with dark fuscous.

Exp. 13.0-0,13.5 mm.; 0.52-0.54 inch.

Hab.—Kansas (Onaga)

Two male specimens in my collection. In its general dark coloration this species approaches the next section of the genus.

Var. **occidentella**.

Specimens in my collection from Pasadena, California, agreeing with the above in size and markings and yet present differences

which eventually may prove these to be distinct, but which for the present I prefer to consider as varietal only; they differ from the typical form as follows: general color a paler gray; the spot at one third of the fold less conspicuous and particularly by the narrower and more pointed forewings. Another specimen in my collection from Mountain View, California, I also refer to the variety under consideration, it is of a grayish fuscous color with some lustre; all the wing markings obscure, except the spot at end of cell and four or five costal spots.

SECTION III.

But three species belong here: they are aberrant in general appearance and markings of forewings and may readily be distinguished as follows:

Forewings with four fascias	obliquella.
Forewings without fascias.	
Dark fuscous, without conspicuous costal spots	Dyarella.
Ground color grayish-white; four large costal spots	margoriella.

A. obliquella n. sp.—Brush of first and second joints of labial palpi dense and long, dark fuscous externally and sprinkled with dark brown scales, third joint flattened, a little longer than the second joint, fuscous in basal half externally; the first two joints with a few long, blackish lateral setæ. Head sordid white, scales loosely oppressed. Thorax sordid white, speckled with small brown dots, patagia and four spots on the anterior margin dark brown. Forewings moderately wide, elongate elliptic, apex broadly rounded; ground color sordid ochreous white, sprinkled with brown scales and marked with deep seal-brown as follows: costa at base, from which extends a narrow oblique streak, which reaches the dorsal margin where it expands into a triangular spot, a fascia at one-third, moderately wide, extends obliquely until it reaches the fold, thence perpendicularly to and attaining the internal margin, another fascia at two-thirds extends obliquely backwards and forms a quadrate spot which extends back a little but does not reach the dorsal margin, this quadrate spot encloses another almost blackish spot on the transverse vein; just before the apex is a transverse spot extending half across the wing and somewhat bifurcate on the margin, between this spot and the preceding fascia are one or two smaller costal dots. Cilia sordid white, costal part barred with dark brown, the dorsal portion with two irregular dividing lines and spotted with dark brown. Hindwings and cilia fuscous brown. Underside of wings fuscous. Abdomen above, underside of body and legs grayish, with more or less fuscous dusting; apical half of tarsal joints paler.

Exp. 13.0–16.5 mm.; 0.52–0.66 inch.

Hab.—California (Pasadena); two specimens in my collection. (Los Angeles), specimen in U. S. Nat. Museum.

A very distinct species, unlike any other known to me.

A. dyarella n. sp.—Pl. I, fig. 1.—Grayish to dark fuscous. Labial palpi and lateral setæ dark fuscous, brush of second joint and the third joint dull ochreous, the latter flattened with a dark spot beneath and dusted with fuscous above. Face ochreous white. Vertex brownish, intermixed with white anteriorly. Thorax brown, patagia paler. Forewings moderately wide, costa evenly arched from base to apex, latter broadly rounded; grayish fuscous, spotted with seal-brown as follows: three transverse costal spots near the base, the first and third most distinct, these spots extend as interrupted lines to the dorsal margin, beyond these spots are a number of ill-defined costal spots, becoming a little more distinct towards the apex where they extend as dark lines into the paler cilia; immediately before the middle of the dorsal margin is a conspicuous inverted triangular spot resting with its apex on the margin, obliquely above it and nearer the base is another spot; besides these are smaller, mostly transverse spots, especially in the apical part of the wing; the larger spots on the disk and dorsal margin are more or less distinctly margined with yellow scales. Dorsal cilia grayish fuscous, barred with darker lines. Hindwings fuscous brown, with a faint, purple lustre. Underside of wings fuscous brown. Abdomen above dark ochreous fuscous, underside of body and legs grayish, tinted with fuscous.

Exp. 13.0–15.5 mm.; 0.52–0.58 inch.

Hab.—Pennsylvania (Hazleton); Maryland (Plummers Island).

The specimen which has served as the type for the above description has been taken by me at electric light. Two specimens received from M. A. Busck and taken at the last-mentioned locality, differ from the type in being darker, wing markings less distinct and the yellow scales margining the large spots very sparsely present. It gives me pleasure to dedicate this species to Dr. Dyar.

A. margoriella n. sp.—Pl. III, fig. 5.—First joint of labial palpi entirely and the second externally fuscous brown, the latter within, the brush anteriorly and the third joint pale ochreous, the latter with an indistinct fuscous dot in the middle of underside. Head ochreous, intermixed with brown. Antennæ ochreous brown, paler at base. Thorax ochreous, speckled with and patagia anteriorly, fuscous. Forewings moderately wide, arched from the costa and again towards the apex, latter obtusely rounded; sordid ochreous, as grayish white, irrorated and conspicuously spotted with dark brown, four spots on the costa, the first near the base is oblique, somewhat interrupted and reaches the fold, the second spot at less than one-third, a large oval spot beyond the middle and a large subquadrate spot before the apex; a large spot on the fold at one-half the wing length, a large spot on the dorsal margin near the base; another, less conspicuous, at beginning of dorsal cilia; besides these are numerous dots and transverse streaks of a paler color, veins dark; a small, but distinct, spot at end of cell and on costa between third and fourth spot. Cilia pale ochreous, barred with five or six dark lines, the last costal spots extends into the cilia. Underside pale fuscous, showing somewhat the markings of upper side. Hindwings grayish, dusted with fuscous, cilia concolorous. Abdomen above grayish fuscous; underside of body and legs grayish ochreous, dusted with fuscous; anterior tarsi, except joints at apex, dark fuscous.

Exp. 11.0–16.0 mm.; 0.44–0.64 mm.

Hab.—Texas (San Antonio); Kansas (Lawrence); Florida.

My own and U. S. Nat. Mus. collection. The smaller sized specimens have more of the grayish white, the larger the ochreous white color. A very distinct and well-marked species. Named after my daughter Margorie.

PARAPLESIA gen. nov.

Type *Busckiella*.

Differs from the other genera of this group by the bipectinate antennæ of the male, the latter inserted in the centre of the upper orbital margin; first joint with well-marked pecten. Head and face rough haired. Forewings elongate; all veins present, veins 7 and 8 out of 9. Hindwings wider than the forewings, all veins present; parting vein of cell forked. Legs long and slender. Hind tibiae rough haired.

A single species; the type of the genus.

P. Busckiella n. sp.—Pale ochreous. Labial palpi moderately long, porrect, slightly ascending, second joint dusted with fuscous, except on the upper side, with black, lateral setæ, third joint flattened, two-thirds the length of the second, with a few scattered fuscous scales. Head rough haired, yellowish white. Antennæ yellowish fuscous, pecten of first joint long, fuscous, joints closely set. Middle of thorax creamy yellow, with a few scattered fuscous scales, patagia densely dotted with fuscous anteriorly. Forewings pale ochreous, rather densely and evenly overlaid with fuscous scales, without lustre, a row of ill-defined, darker spots along the costal margin, becoming larger and more distinct around the apex; along the fold and also in the apical half of the interspaces between veins 4, 5, 6 and 7 the darker scales are deficient, giving thus a peculiarly marked appearance, the paler spaces containing some deep ochreous scales; there are also one or two ill-defined longitudinal lines through the centre of the wing, the space between these is also paler. Cilia greyish, with scattered fuscous scales; underside grayish fuscous. Hindwings pale greyish, with a faint metallic lustre. Cilia concolorous. Abdomen grayish fuscous above; underside of body silvery gray, dusted with fuscous. Anterior and middle tibiae and tarsi pale fuscous, joints of latter pale at apex, hind legs pale, scarcely dusted with fuscous.

Exp. 18.0 mm.; 0.72 inch.

Hab.—Catal Springs, Arizona.

A single male specimen from the U. S. Nat. Mus. collection is before me.

PARANEURA.

Type *simulella*.

Labial palpi ascending, second joint roughened beneath with scales, not flattened, third joint approximately as long as the second, slender, pointed, not flattened. Head not wider than long, face

smooth scaled, occiput rough haired. Antennæ slender, simple, nearly as long as the forewing, first joint without pecten. Forewings rather wide, all veins present, veins 5 and 6 out of one point, 7 out of 8; on accessory cell 1^b furcate. Hindwings ovate, as wide or wider than forewings, with 8 veins; 5 and 6 stemmed, 1^b narrowly furcate at base.

In general appearance the species resemble those of the first group of *Amydria*.

The three species are distinguished as follows:

Ground color of forewing ochreous.

Base of forewing not entirely purplish brown; wings less elongate.

simulella.

Base of forewings purplish brown; wings more elongate.

Ehrhornella.

Ground color of forewing bony-white **cruciferella.**

P. simulella n. sp.—Sordid ochreous. Labial palpi, except second joint within, dusted with fuscous. Face with a faint pearly lustre. Antennæ pale fuscous above. Thorax anteriorly fuscous brown. Forewings moderately wide, obtusely pointed at apex, costa equally curved from base to apex, thinly dusted and spotted with purplish fuscous brown, base of costa and dorsal margin dark brown, a row of small dots on basal half of costa, beyond these are three larger spots, the middle of which is the smaller, in the apical part are three or four spots extending as lines into the costal cilia; a longitudinal dash at one-third and another at two-thirds of the fold, the latter being the most marked. A large irregular blotch at end of cell, and before it at two-fifths another though somewhat smaller spot on the disk; two short, parallel dashes in apical part of wing; along base of dorsal cilia is a row of semi-confluent dots and some similar though less distinct spots along the free dorsal margin. Cilia concolorous, speckled with fuscous scales. Hindwings obtusely pointed, ochreous fuscous, cilia concolorous, with indistinct subbasal line. Underside of wings pale, grayish fuscous. Abdomen above ochreous fuscous, underside of body and legs dusted with fuscous; tarsal joints pale at apex.

Exp. 18.0–25.0 mm.; 0.82–1.0 inch.

Hab.—California (Folsom; Los Angeles).

Two specimens before me.

P. Ehrhornella n. sp.—Smaller than *simulella*, wings narrower, more acutely pointed at the apex, especially the hindwings. Ochreous; palpi more deeply fuscous externally. Vertex ochreous fuscous. Antennæ fuscous brown above. Thorax dotted with fuscous. Forewings elongate, conspicuously marked with purplish brown as follows: Base entirely, except a minute dot at extreme base of fold, five or six irregular transverse spots on basal half of costa; beyond these three larger rounded spots, of which the middle one is smaller, four costal spots in the apical part extending as oblique lines into the cilia; on and immediately above the fold are three quadrate, well-defined spots, separated by the

rather clear, ochreous ground color; a large irregular spot on the disk at two-fifths, another at end of cell, and a third in the apical part of the wing. these three spots are in a line, and the first and second are more or less distinctly connected with the supra-plical spots; besides these larger spots the wing is densely speckled with brown scales and dots, especially in basal half of wing; a row of more or less connected dots along base of dorsal cilia, latter speckled and irregularly barred with dark fuscous. Hindwings dusted with fuscous, darker along the margins. Cilia concolorous, with dark subbasal line. Abdomen grayish fuscous above. Underside of body and legs silvery gray to ochreous, slightly tinged with fuscous, tarsal joints paler at apex.

Exp. 19.0-22.0 mm.; 0.76-0.88 inch.

Hab.—California (Mt. View).

It gives me pleasure to dedicate this species to Mr. Edward Ehrhorn, from whom the specimens were received.

P. cruciferella n. sp.—Bony or sordid white. Labial palpi spotted above with fuscous. Head ochreous white, somewhat shining. Antennæ of moderate thickness, annulate with brownish above. Patagia purplish brown in front, thorax finely speckled with scales of same color. Forewings moderately wide, irregularly narrowed from both margins to apex, the latter obtusely pointed; sordid white, thinly sprinkled with pale brown scales and conspicuously marked with dark brown; extreme costa and costal part of base, a row of partially confluent dots on basal half of costa, beyond middle three larger spots, the middle one being the smaller, three distinct, closely approximated spots on costa in its apical part and extending into the cilia, a row of 7 or 8 rather large spots along base of dorsal cilia and extreme apex; several spots in basal part of wing, a heavy dash towards end of fold somewhat connected with the first spot at beginning of dorsal cilia; a conspicuous cruciform spot at end of cell, the two bars of which are oblique to the longitudinal axis of the wing, a dash on the disk before the middle; basal part of dorsal margin blackish; two oblique dashes in apical part, conjoined below. Cilia concolorous, with indistinct darker lines extending from the dorso-marginal spots. Hindwings grayish, with ochreous tinge and dusted with fuscous and darker around the margins. Cilia grayish. Underside of forewings shows the markings of upper side more or less distinctly. Abdomen sordid ochreous, tinged with fuscous, segments with a scale tuft each side. Underside of body ochreous, with a silvery lustre. Anterior legs tinted with fuscous brown, posterior less so.

Exp. 20.0 mm.; 0.8 inch.

Hab.—California (Mt. View).

Two males in my collection.

SETOMORPHA Zell.

Type *rutella* Zell., Dyar List, p. 575.

“Head densely scaly, scales clearly appressed. Labial palpi moderately well developed, ascending, flattened; second joint thickened with scales beneath and with some spreading setæ externally; ter-

mental joint strongly flattened, obtuse or truncate at apex. Maxillary palpi obsolete. Tongue wanting. Ocelli none. Antennæ setaceous, as long or a little longer than the abdomen, basal joint thickened, outer joints short, close set, scarcely pubescent in the male. Legs moderate; spines of posterior tibiæ a little before their middle. Ovipositor exerted. Wings narrow; hindwings as wide or but little narrower than the forewings, lanceolate; cilia of moderate length."

The above is a translation of Zeller's description of the genus, published in 1853. In his "Mittheilungen zur Kenntniss Nord-amerikanischer Nachtfalter, 1873," the same author described three species from Texas under the same generic name, and where he also refers to the doubtful position of this "smooth headed" genus and that perhaps the neuration or primary stages might throw light on this point.

In his "Micro lepidoptera from Africa,"* Lord Walsingham describes the neuration and gives figures of the same and also of head of the type of the genus *Set. rutella* Zell., which is as follows :

Forewings 12 veins, 7 and 8 arising from a common stem out of 9, 7 to apex; 5 and 6 slightly curved, parallel, 3 and 4 from a short, common stem; 2 from near angle of cell, curved at origin; hindwings 8 veins, 2-3 from a point at angle of cell; 5 and 6 from common stem, 6 to apex.

This, then, renders our conception of the genus concise. The figure of the head in Lord Walsingham's paper does not tally with the description, as it appears anything but smooth scaled. Now, in accordance with the above, none of the three North American species described by Zeller can any longer be retained here and have therefore been referred to the new genus *Semiota*.

But two species are known to me which agree in venation and all other essential characters and which are distinguished as follows :

Larger, 20 mm. and over; hindwings obtusely pointed **majorella**.
Smaller, 14 mm.; hindwings acutely pointed..... **sigmoidella**.

S. majorella n. sp.--Sordid ochreous, with a satiny lustre. Second joint of labial palpi externally and third above and beneath spotted with fuscous. Head dull ochreous brown, occiput somewhat rough haired. Antennæ slender (♀), three-fourths the length of forewing; slightly annulate with fuscous above. Thorax speckled with purple-brown dots, more densely anteriorly. Forewings of moderate width, sprinkled with purple-brown scales, aggregated in

* Trans. Ent. Soc. Lond., 1901, p. 81, pl. vii, fig. 73.

numerous spots and irregular transverse lines; extreme costa near the base, a row of small dots in basal half, and 6-7 larger spots on distal half of costa, a similar row of rather large spots along base of dorsal cilia. Cilia speckled and barred with dark brown, proceeding from the marginal spots. Hindwings grayish, slightly fuscous, cilia more ochreous. Abdomen above, body beneath and legs grayish ochreous, dusted with fuscous; tarsi fuscous, joints pale at apex.

Exp. 20.0-22.5 mm.; 0.8-0.9 inch.

Hab.—California (Pasadena).

Two female specimens in my collection. In venation this species differs in veins 5 and 6 of forewing straight, 7 to costa before apex; hindwings with vein 2 remote from hind angle of cell, 3 and 4 closely together from the latter; differences scarcely sufficient to remove it from the genus.

P. sigmoidella n. sp.—Smaller than the preceding species. Sordid ochreous, with very little lustre. Second joint of labial palpi externally and beneath fuscous. Head dull ochreous. Forewings rather narrow, speckled and spotted with purple-brown, costa at base, a row of small dots on costa before the middle, 6 or 7 larger spots from middle to apex, a row of confluent spots along base of dorsal cilia; a dash at end of cell and a large spot near end of fold connected by a double curved line, giving thus a sigmoid figure; a large spot near the apex; besides these are numerous discal spots, more or less connected into transverse lines. Cilia speckled with dark scales. Hindwings acutely pointed at apex, grayish, dusted with fuscous; cilia stramineous. Abdomen above, body beneath and legs grayish, tinged with yellowish.

Exp. 14.0 mm.; 0.56 mm.

Hab.—Colorado (Pueblo, Glenwood Springs).

Four males in my collection. Differs in venation from *majorella* by veins 3 and 4 of hindwing remote at their origin.

EPILEGIS gen. nov.

Type *curiosella*.

Second joint of labial palpi slightly thickened beneath with scales; not flattened, third joint flattened. Head rather large, globose, smooth scaled, slightly roughened on the occiput. Eyes large, hemispherical, quite visible from above. Antennæ somewhat thickened towards the base, nearly as long as the forewings. Forewings rather wide, apex obtuse; 11 veins, veins 7 and 8 out of 9; 1*b* furcate. Hindwings ovate, all veins present, veins 3, 4, 5 and 6 approximate at their origin; 1*b* furcate.

Habitus of *Semiota*, but wings relatively wide and head large. At once distinguished from it and allied genera by veins 5 and 6 of hindwings free.

E. cariosella n. sp.—Grayish ochreous. Palpi beneath fuscous. Head tinged with brown, especially above the eyes. Antennæ brownish above, finely annulate with pale. Patagia entirely and rest of thorax speckled with purplish brown. Forewings speckled with purplish brown, very near the base is a transverse band with ill-defined outline, and from it the dark coloration extends along the fold for two-fifths its length, near the end of fold is another patch; in the middle of the wing, beginning at three-fifths its length, is a heavy longitudinal stripe extending to but not quite attaining the apex; along both margins are a number of larger and smaller spots, one at three-fifths of the costa more conspicuous, and other spots scattered over the disk. Cilia pale ochreous. Hindwings pale grayish, tinged with ochreous; cilia pale. Abdomen brownish ochreous, apical half of segments paler. Underside of body bright yellowish. Legs grayish ochreous, tibiae and tarsi tinged and spotted with dark fuscous.

Exp. 14.0 mm.; 0.56 inch.

Hab.—California (Kaweah).

Two males in my collection.

APOTOMIA gen. n.

Type *fractiliniella*.

Agrees with *Semiota* in palpal structure; head smooth scaled. Antennæ three-fourths of wing length. Forewings moderately wide; neuration as in that genus, except that veins 5 and 6 are stalked. Hindwings over 1 ovate, obtusely pointed; 7 veins, 5 and 6 stemmed, 1^b furcate. In appearance the single species differs in wing markings from *Semiota*.

A. fractiliniella n. sp.—Pl. I, fig. 2.—Labial palpi whitish ochreous, the second joint moderately thickened with scales beneath and spotted with fuscous externally, third joint flattened, as long as the second. Head pale ochreous, tinged with brownish, with some lustre. Antennæ grayish ochreous, annulate with brown above, the two basal joints paler. Thorax whitish ochreous, patagia more yellow and slightly spotted with brownish anteriorly. Forewings pointed, sordid white, overlaid with pale ochreous and having considerable lustre, speckled with brown scales and small dots; an indistinct, subangulate line beginning about middle of costa and extends almost at right angle to fold, thence outwardly to near its end when it is deflected obliquely to the dorsal margin; base of costa, six or seven rather large costal spots beyond the middle, three or four similar spots on the dorso-apical margin and a large spot on end of cell dark brown. Cilia concolorous, speckled with brown scales. Hindwings pale grayish white, slightly dusted with fuscous. Cilia pale yellow. Abdomen and legs sordid ochreous white, with some fuscous scales, especially on tarsal joints.

Exp. 17.0 mm.; 0.68 inch.

Hab.—California (Pasadena).

SEMIOTA gen. n.Type *inamænella*.

Head as wide as long; scales appressed, occiput rough haired. Second joint of labial palpi not obviously flattened, roughened with scales beneath and with lateral setæ; terminal joint ascending, flattened, obtusely pointed. Eyes rather small, but slightly visible from above. Antennæ setaceous, nearly as long as the forewings, simple. Forewings lanceolate; 11 veins, 7 and 8 out of 9, 1^b furcate. Hindwings ovate-lanceolate, as wide as the forewing; cilia 1; 7 veins, vein 2 remote from angle of cell, 5 and 6 stalked, 1^b narrowly forked at base.

The reasons for establishing this genus have been noted under *Setomorpha*. The three species recognized are distinguished as follows:

Larger, 18.0 mm.; forewings wider; transverse lines near base extend from costa to dorsum **operosella.**

Smaller, 10.0-15.0 mm.; forewings elongated, pointed at apex.

Pale ochreous; without transverse lines in apical part of wing.

inamænella.

Ochreous brown; transverse lines in apical part of wing.

transversestrigella.

S. operasella Zell.—Dyar's List, p. 575, No. 6549.

The author describes this species as follows:

"Alis ant. oblongis, dilute luteis, fusco-nebulosis, costa fusco-punctata et postice-maculata. ♀.

"Thorax pale ochreous, dusted with brown, patagia pale, brown anteriorly. Head grayish, dusted with fuscous; antennæ with close-set joints, pale brown, somewhat shining; first joint brown, yellowish at the apex. Labial palpi strongly flattened, pale yellowish above, second joint brown beneath, with several bristles on the sides, third more than one-half longer than the preceding, narrower, obtuse at apex and almost entirely pale yellowish. Femora and trochanters of anterior legs gray, tibiæ and tarsi brown, former spotted with white, apices of tarsal joints paler, posterior legs sordid pale yellowish gray, tibiæ rough haired; feet shining, pale gray externally, joints broadly pale at their ends. Abdomen gray above, whitish beneath, rather robust, long, acuminate with long ovipositor.

"Forewings four lines long (about 8.0 mm.); apparently widened by the cilia, rounded at the apex, pale ochreous, with blackish brown dusting, the latter forming a pale shading near the base and a strong though not sharply defined dash on the fold before its middle; in the middle of the disk above the outer third of the fold are several confluent, longitudinal stripes; several spots on the internal margin; on the basal half of costa are eight unequal dots, on the distal half six less approximate, the four last of these extend into the cilia. Cilia yel-

lowish gray, strongly speckled with dark brown scales in their larger basal half, the smaller distal half with ill-defined square dots. Hindwings pale gray, with yellowish cilia. Underside of forewings dark grayish fuscous. Cotal cilia paler." Exp. 18.0 mm.; 0.72 inch.

The type, a female, in excellent condition is in the Cambridge Museum. Zeller's description, while very minute, does scarcely convey a concise idea, the heavy dash on the fold consists of several transverse patches, which reach the inner margin and are more pronounced on the fold; the longitudinal dashes or stripes on the disk are oblique, curved and nearly confluent on the fold, the cilia strongly barred with dark fuscous, the bars broken by post median dividing line.

Hab.—Texaz (type); a ♂ specimen in my collection from Kansas I refer without hesitation to this species.

S. inamœnella Zell.—Dyar's List, p. 575, No. 6550.

"Parva, alis ant. oblongis, dilute luteis, fusco-maculatis, infra costam purioribus, costa tota fusco-maculata, maculis postice sensim magoribus. ♂.

"Agrees in habitus and general coloration with *operosella*. Abdomen slender and relatively short, pale yellowish gray. Forewings two lines long, somewhat wider posteriorly, with the same ground color as in *operosella*, but sprinkled more profusely with larger dark brown scales which form larger spots; the latter more pronounced upon the larger dorsal half of the wing, but are so irregular in shape and more or less confluent as to permit of no concise description; the space immediately below the costa is less clouded by the darker scales; the costal spots begin at the base and increase in size as well as in interspace between them towards the apex, and are mostly acuminate inwardly; the inner margin is here and there interrupted, dark brown (a character entirely wanting in *operosella*); cilia thickly sprinkled with brown scales, the latter forming ill-defined quadrate spots. Hindwings relatively wider than in *operosella* but shows no appreciable difference in coloration from the last-named species."

Exp. 10.0 (—11.0 mm. *ruderella*).

The above description, translated from the original, agrees well with the type in the Cambridge collection. However, a critical examination of the type of this species and that of *Set. ruderella* Zell. leaves no doubt in my mind of their identity. The difference in length and thickness of the labial palpi is scarcely appreciable, the absence of lateral setæ of the second joint in *ruderella*, merely accidental, and the rather large spot in the middle of dorsal margin, a too variable character to depend upon for differentiation.

Hab.—Texas, type and specimen in collection at the Academy of Natural Sciences, Philadelphia, and my own.

S. transversestrigella n. s.—Grayish to brownish ochreous. Palpi dusted with fuscous. Head more brownish, lustreless. Thorax overlaid with purple brownish, patagia darker in front. Forewings narrow, elongate, pointed, more grayish ochreous, sprinkled with brown scales; a row of rather large spots along the entire costal margin, less sharply defined and more irregular in the basal half, more conspicuous and distinct in apical half, these spots extend as transverse lines, more or less interrupted across the wing and reach the dorsal margin, where, however, they become less distinct, these lines are more evident in the apical part of wing, the interspaces between them being more densely sprinkled with dark scales, the latter being rather scant in the subapical space. Cilia densely sprinkled with purple-brown scales, the dark color being interrupted by several pale lines. Hindwings elongate, pointed, grayish fuscous, cilia concolorous. Abdomen and legs ochreous fuscous, tarsi spotted with dark brown.

Exp. 12.0–15.0 mm.

Hab.—Calif. (Pasadena); a number of specimens in my collection.

Wings more elongate than in either of the two preceding species, and darker in coloration than *inamænella*.

APRETA gen. n.

Type *paradoxella*.

Labial palpi short and very robust, porrect, first joint truncate, with a few setæ beneath, the second scarcely longer than wide anteriorly, obliquely truncate antero-inferiorly, the truncature clothed with short, bristly hair, the third joint half as long on its upper surface than the preceding one, oval, flattened, depressed, with short stiff hairs projecting from its anterior margin. Head, viewed from above, very short, transverse, smooth scaled, posterior margin with a whirl of stiff hair each side; front receding beneath. Eyes small, hemispherical. Antennæ as long as the forewing, very slender, first joint strongly, the second slightly incrassate. Forewings elongate, pointed; costa slightly curved from the base; 12 veins, vein 2 from posterior angle of cell, 7 and 8 stemmed, 1^b furcate. Hindwings elongate-ovate, pointed, 8 veins, vein 2 from posterior angle of cell, parting vein of latter bifurcate, veins 5 and 6 out of one point, 1^b strongly furcate; frenum absent. Legs stout, tarsal joints with a verticel of spinules of unequal length at their apical extremity, most strongly developed on the posterior, less so on the middle and scarcely perceptible on the anterior feet.

The genus thus defined presents characters peculiarly unique and striking, and could not be confounded with any other of the group. In habitus and tarsal structure it agrees well with the following, but differs in palpal structure and venation.

But one species known to me.

A. paradoxella n. sp.—Ashy gray, with a silvery ochreous lustre. Palpi somewhat brownish beneath. Front shining, silvery yellowish. Thorax slightly dusted with fuscous. The forewings in oblique light have a brassy reflection, lightly dusted with fuscous, more so in basal part of wing; costa at base brownish; dusting more dense along base of circum-apical cilia, the latter grayish brown, sparsely sprinkled with fuscous scales. Hindwings silvery gray, cilia ochreous gray. Abdomen above tinged with fuscous, particularly on the sides. Underside of body and legs ochreous white, shining, somewhat dusted with fuscous; spinules of tarsal joints ochreous.

Exp. 16.0 mm.; 0.64 inch.

Hab.—California (Pasadena).

A unique male in my collection.

EPICHÆTA gen. n.

Type *nepotella*.

Labial palpi curved upwards, first joint with several bristles beneath, second joint incrassate with long lateral setæ, obliquely truncate anteriorly, truncature with stiff, spreading hairs, third joint about as long as the second, semi-ascending, flattened, under surface with coarse stiff bristly hairs, which project brush-like beyond its distal end. Head and antennæ as in the preceding. Forewing elongate, pointed; all veins present, veins 7 and 8 stemmed, 9 and 10 with very long stem, 1^b furcate. Hindwings elongate ovate, pointed. All veins present, free, 1^b strongly furcate; frenum absent.

Represented by one species.

E. nepotella n. sp.—Palpi deep ochreous, brownish externally. Head and basal joint of antennæ yellowish brown, the latter more predominant in the occipital whirl of hair. Antennæ pale grayish ochreous. Thorax leaden-gray, with a faint, greenish, metallic lustre. Forewings yellowish leaden, with metallic lustre, and thinly speckled with pale fuscous scales, the latter more aggregated in the apical part of wing; extreme costa fuscous; beyond the middle and within the costal margin is a rather large, but obscure fuscous spot and three or four spots on the apical part of costa, a spot at end of cell and another beneath it near the end of fold, some obscure dots along base of dorsal cilia. Cilia grayish ochreous. Abdomen above ochreous fuscous. Underside of body and legs grayish yellow, dusted with pale fuscous.

Exp. 14.0 mm.; 0.56 inch.

Hab.—California (Pasadena).

Two specimens in my collection.

Subfamily TINEINÆ.

Head entirely rough haired, more rarely those of front, subappressed. Tongue developed (except *Tenaga*), of moderate length

(very short, *Tineola*). Maxillary palpi well developed, polyarticulate, filiform, generally 6 jointed and plicate; more rarely (*Xylesthia*, *Abacobia*), 3-4 jointed and porrect; entirely rudimentary in *Tineola* and *Tenaga*. Labial palpi variable, generally porrect and somewhat drooping, with spreading apical and some lateral setæ; more rarely (*Scardia*, *Xylesthia*, *Abacobia*), ascending and the second joint with a dense or loose brush of stiff hairs beneath. Antennæ filiform, variable in length, generally over one-half; rarely (*Triptodema*) as long as the forewing, glabrous, or finely pubescent in the male, rarely (*Phryganeopsis*) ciliated in both sexes, or in the male only (*Incurvaria*, *Cyone*); first joint not dilated into an eye-cap, rarely with pecten. Wings equally developed in both sexes. Forewings varying from oval to elongate-lanceolate, with 12 or 11 veins, vein 7 to costa more rarely to apex. Hindwings oval to lineo-lanceolate, 7 or 8 veins; vein 1^b simple (shortly furcate in *Breckenridgia*). Posterior tibiæ generally rough haired.

This subfamily contains some of the largest as well as some of the very small species of the superfamily Tineina.

The genera may be tabulated as follows:

Labial palpi ascending; second joint with stiff hair brush beneath.

Maxillary palpi plicate; hair brush compact.....(1) **Scardia.**

Maxillary palpi porrect, not plicate; hair brush loose, spreading.

Forewings with scale tufts.....(2) **Xylesthia.**

Forewings without scale tufts.....(3) **Abacobia.**

Labial palpi porrect or drooping, more rarely ascending; second joint without brush beneath, generally with spreading apical bristles.

Vein 1^b of forewings furcate at base.

Forewings with vitreous spot, veins 3 and 4 stalked..... (4) **Monopis.**

Forewings without vitreous spot, veins 3 and 4 free.

Forewings with veins 10, 11 and 12 concurrent.....(5) **Trichophaga.**

Forewings with these veins normal.

Forewings with 12 veins, free, or 7 and 8 stalked

Labial palpi long, porrect, entirely rough haired.

(6) **Phryganeopsis.**

Labial palpi moderate, terminal joint not rough haired.

Antennæ of male ciliated.....(7) **Incurvaria.**

Antennæ of male simple.

Maxillary palpi developed, plicate.....(12) **Tinea.**

Maxillary palpi obsolete.....(14) **Tineola.**

Forewings with 11 veins.

Veins free.

Antennæ ciliated..... (8) **Grayia.**

Antennæ simple.....(10) **Breckenridgia.**

Veins not all free.

- Veins 7-8 and 9-10 stalked.....(18) **Eudarcia.**
 Veins 4-5 and 6-7 stalked(19) **Progona.**
 Vein 1^b of forewing not furcate.
 Antennæ of male ciliated(9) **Cyane.**
 Antennæ simple in both sexes; at most, pubescent in the male.
 Anterior median of hindwings concurrent with vein 8.
 (11) **Isocorypha.**
 Anterior median normal.
 Forewings with 12 veins.
 Forewings with veins 6 and 7 out of 5.....(13) **Homostinea.**
 Forewings with all veins free.
 Cell of hindwings open.
 Antennæ as long as the forewing.....(17) **Triptodema.**
 Antennæ shorter than the forewing.
 Hindwings lanceolate, costa scarcely emarginate.
 (16) **Hybroma.**
 Hindwings lineo-lanceolate, costa distinctly emarginate.
 (21) **Leucomele.**
 Cell of hindwings closed.....(20) **Homosetia.**
 Forewings with 11 veins.
 Maxillary palpi obsolete(15) **Tenaga.**
 Maxillary palpi developed, plicate.....(22) **Cenæ.**

SCARDIA Tr.

Dyar, List of North American Lepidoptera, p. 568.

Head rough haired. Labial palpi long, curved and ascending, second joint with dense hair brush beneath, terminal joint long and pointed. Maxillary palpi curved, drooping. Antennæ one half to two-thirds of wing length, ciliated in the male; basal joint with pecten. Forewings with 12 veins; vein 1^b furcate at base. Hindwings as wide as the forewings, elongate oval, cilia one half. All veins present. Hind tibiae rough haired.

This genus, which, according to Mr. Meyrick, is nearly cosmopolitan, contains only a small number of species, some of which, however, are among the largest of the Tineidæ with polyarticulate maxillary palpi. The same author* describes the latter organs as short and porrected, this I could not verify in any of ours nor in the European species, which I have seen; they are rather long, filiform and curved downward, except in *coloradella*, where they are short, thickened with scales and partially plicate.

The species may be arranged in two natural groups as follows:

* Handbook of British Lepidoptera, 1895, p. 778.

GROUP I.

Larger, more robust species; ground color of forewings dark purple brown.

Cilia of antennæ under 1; pale dorsal portion of forewing speckled with dark fuscous.....**anatomella.**

Cilia of antennæ 2; pale dorsal portion of forewings immaculate.
coloradella.

GROUP II.

Generally smaller and less robust than those of Group I. Ground color of forewings pale or brownish ochreous:

Transverse vein of forewings blackish above.

With transverse fascia.

Forewings broader; fascia angulated externally.....**fuseafasciella.**

Forewings elongate; fascia convex externally.....**tessulatella.**

Without transverse fascia.....**buskerella.**

Transverse vein not blackish above.....**approximatella.**

S. anatomella Grote.—Dyar's List, 568, No. 6474.—Head ochreous, pale fuscous on the sides. Labial palpi dark brown, second joint at base and apex within and terminal at base and apex pale ochreous. Maxillary palpi pale fuscous, base and tip ochreous; antennæ dark brown, cilia of male very short, under 1. Thorax dark brown anteriorly, mixed with ochreous on the disk, posterior part of patagia pale yellow. Abdomen grayish, mixed with fuscous. Forewings elongate, rounded at the apex, deep purple-brown; four pale, H-shaped spots on the costal margin, two of these are before and two behind the middle, the last one of these incomplete; terminal part of wing pale, projecting almost squarely into the dark ground color between veins 5 and 7, and irrorated with dark, transverse strigæ; a dark spot at end of interspace between veins 5 and 6; dorsal margin pale, the latter dilated at the anal angle, before the middle, and again at the beginning of the dorsal cilia, and transversely strigulate with dark brown; the projections at the middle and at beginning of cilia contains each a distinct, dark spot. Cilia pale yellow, with dark dividing line about the middle and transversed by about seven or eight dark bars, the widest of which is before the apex. Underside of wing fuscous, tinged with purple and showing the pale markings of the upper side, though less distinct along the dorsal margin. Hindwings grayish fuscous, with a feeble, purple lustre. Cilia less than $\frac{1}{2}$ pale gray in their basal half, whitish apically. Anterior and middle legs dark brown; apex of tibiæ and tarsal joints banded with pale yellow; hind legs paler.

Exp. 25.0-26.0 mm.; 1.0 inch.

Hab.—Northern Illinois; Texas (Harris County); Utah (Salt Lake City); New York.

Closely resembles the European *S. polypari*, but is smaller, the number of geminate costal streaks is less and lacks the pale spot at end of cell.

S. coloradella n. sp.—Head ochreous, brownish above the antennal insertion. Labial palpi rather slender, yellowish gray, pale fuscous externally, apex of terminal joint pale; brush of second joint very short, compressed into a cutting edge, the third joint nearly as long as the second and slender. Maxillary palpi rather short, thickened with scales and more distinctly folded; dusted with fuscous. Antennæ scarcely one-half, pale ochreous, joints not close set, each with a whirl of dark brown scales, giving them a distinct annulate appearance, strongly fasciculate-ciliate in the male, cilia fully 2. Thorax pale yellow, patagia anteriorly and disk speckled anteriorly with dark brown. Forewings deep purple-brown, markings yellowish white; a number of short transverse strigæ on the costa, of which two or three in the last third of the dark part are more distinct than the rest. Apical part of wing and termen broadly pale yellow, this pale portion is widest on the costa and slightly sinuate into the dark portion, irrorated with dark spots and two or three short, confluent spots on the costa before the apex. The pale dorsal portion is widest at the base and projects as a triangle into the dark portion about the middle and again at beginning of the dorsal cilia, not obviously spotted with dark fuscous, except slightly beyond dorsal cilia. Cilia pale yellow, with dark line near the base. Underside of forewing dark fuscous, tinged with purple and showing the pale markings of upper side. Hindwings pale grayish fuscous, cilia pale, with indistinct dividing line, underside grayish fuscous. Abdomen grayish fuscous, tinged with yellow, anal tuft grayish ochreous. Legs yellowish, dusted with fuscous, anterior tibiæ and tarsi dark brown, joints of the latter pale at apex.

Exp. 28.0–30.0 mm.; 0, 1.12–1.20 inch.

Hab.—Colorado (Durango); Texas; New Mexico (Beulah).

My own and U. S. Nat. Mus. collection.

Very closely resembles *anatomella* in size and coloration, but is readily distinguished aside from differences in wing markings by the more slender labial palpi, the long ciliation of ♂ antennæ, and the latter being distinctly annulate.

S. fuscofasciella Chamb.—Pl. II, fig. 1.—Dyar's List, p. 568, No. 6474.

Doubtfully referred by its authors to *Euplocamus*. I here give his description *verbatim*:

"The palpi are brown on the upper and external surfaces, and on the basal portion of the tuft beneath; on the inner surface they are yellow.

"Head sordid yellowish; antennæ brown; thorax and patagia brown at base, but becoming yellowish towards the tip. To the naked eye the forewings appear yellowish, mottled with brown, with some distinct brown spots and a rather wide irregular brown fascia behind the middle, the anterior margin of which is straight from the costa to the fold, but having the posterior margin angulated backward about the middle of the wing, at the fold the fascia is narrowed suddenly behind; the basal portion of the wing is distinctly brown, and there are two distinct brown spots in the apical part of the wing. Under the lens the entire wing appears to be traversed transversely by numerous, narrow, interrupted, confluent and irregular brown lines on a yellow ground, the brown of the fascia and base

of the wing almost entirely obscuring the yellow. Abdomen brownish above, yellowish beneath. Anterior and middle legs yellowish, stained with fuscous, with the tarsi fuscous, annulate with yellowish. Hind legs yellowish, with some brownish markings on the anterior surface, especially on the tarsi. Al. ex. $1\frac{1}{2}$ inch."

A critical examination of the type in the Cambridge Museum convinces me that this is a true *Scardia*. The presence of polyarticulate maxillary palpi excludes the species from both *Amydria* and *Euplocamus*. The brown color of the base is not so evident as might be inferred from the description, neither could I see the sudden narrowing of the post median fascia on the fold. Chambers does not mention the well-marked costal spots, of which the three before the fascia are geminate. The hindwings are wide, ochreous fuscous, with large, ill-defined quadrate spots in the costo-apical portion of the wing; the costal portion is more ochreous. The transverse vein of forewing is dark brown above; the underside shows the marginal markings of the upper. The type specimen has only the wings of one side left, but is otherwise in very good condition, excepting the cilia which are very defective. The wings are broad, the forewing being 13.5 mm. long and 5.0 mm. wide. A specimen in my collection determined by Lord Walsingham as *E. fuscofasciella* does in no wise agree with the type.

S. tessulatella Dyar's List, p. 568, No. 6473.—Head ochreous fuscous; labial palpi pale ochreous, dark brown externally, except the apices of the second and third joints; maxillary palpi pale ochreous. Antennæ brownish, finely annulate with pale; cilia of male short (one-half). Thorax ochreous, dark fuscous anteriorly. Forewings elongate-oval, slightly widened externally and broadly rounded at the apex; ground color ochreous, sprinkled with brownish and in the apical portion with whitish scales; extreme costa dark brown; interrupted by pale spots; basal third of wing with large, irregular subconfluent spots, one of which extends from the costa to the dorsal margin, and is more or less interrupted. Immediately behind the middle is a large costal spot which extends as a transverse fascia and attains the dorsal margin, this fascia is convex externally and overlies the transverse vein which is conspicuously darker than the adjacent part of the fascia, the latter is a trifle nearer the base at its dorsal end than on the costa. Beyond the latter is another smaller costal spot and just before the apex a larger one which, as an interrupted fascia nearly parallel to the termen, extends to the dorsal margin; cilia dark brown, interrupted by six or seven pale bars. Underside pale fuscous, showing the markings of the upper side. Hindwings grayish fuscous, with faint metallic lustre. Cilia concolorous, with pale basal line. Abdomen ochreous, tinted with fuscous above. Legs grayish ochreous; tarsal joints of anterior and middle pair blackish, pale at tip.

Exp. 20.0-22.0 mm.; 0.80-0.88 inch.

Hab.—British Columbia (Wellington); Europe.

A male specimen in my collection has served for the above description. I have not seen an authentic specimen of this species, but the description tallies so completely with my specimen that I entertain no doubt of its identity.

S. *Burkerella* Busck.—Proc. U. S. Nat. Mus., xxvii, p. 777.—Antennae pale, annulate with brown. Wings rather elongate, pale ochreous; spots large, dark brown; no median fascia, a large oblique costal spot near the base extending beyond the fold; a large subquadrate spot about the middle, between these two are three or four small costal spots, and beyond the middle are four more; a large spot at end of cell and beyond it, but a little nearer the costa, another spot, these spots are connected by a dark line; a large subquadrate spot on dorsal margin about the middle, three or four spots along base of dorsal cilia, the last of these just before the apex is smaller and is opposite to the last costal spot, these spots extend somewhat into the cilia; aside from these coarser markings the wing is dotted with smaller dots and scales of a brown color.

Exp. 26.0 mm.

Hab.—Washington (Hoquiam).

Mr. Busck has kindly permitted me to see his type, from which the above short description was taken.

S. *approximatella* n. sp.—Pl. I, fig. 8.—Head ochreous, slightly tinged with brown. Labial palpi long and slender, pale yellowish, second joint porrect, externally and brush beneath, brown, the hairs of the latter are less stiff and dense and directed obliquely forward so as to form a projecting tuft beyond the joint; third joint as long as the second, slender, ascending and pointed, tinged with brown in its basal half externally. Maxillary palpi pale, plicate. Antennae slender, grayish ochreous, annulate with dark fuscous above, more pronounced toward the base; joints less close set, longer than wide; cilia in the male long, 2 and over. Thorax yellowish, patagia brownish anteriorly. Forewings elongate-oval, less broadly rounded at the apex than *tessulatella*, ground color yellowish white, with scattered, pale brownish scales; near the base is an oblique costal spot attaining the fold; about the middle of the wing is a transverse fascia, beginning on the costa and extending in about equal width for two-thirds the width of the wing, when it becomes narrowed from both margins and attains the dorsal margin as a small spot, nearer the base than the apex; externally and near the costa the fascia sends out an angular projection. Between the fascia and the oblique basal spot are some transverse lines. Another spot on the apical third of the costa, including a pale dot on the costa and limited externally by another pale dot, does not reach the dorsal margin; terminal margin dark brown; a triangular spot about the middle of the dorsal cilia. Subpleural space paler than rest of wing. Cilia pale, with distinct line near the base and another wider but less clearly defined near the outer edge; these lines are interrupted by four light bars of which the apical one is very narrow. Underside grayish fuscous, markings, except near the costa, not obvious. Hindwings elongate-oval, as wide as forewings, pale grayish, slightly tinged with fuscous. Cilia concolorous, with pale

basal and another subbasal line. Abdomen grayish ochreous, tinged with fuscous. Legs yellowish, tinged with fuscous, tarsal joints of anterior and middle pair dark brown, pale at the apex.

Exp. 12.5 0.17 mm.; 0.5-0.8 inch.

Hab.—Pennsylvania (Hazleton, Mauch Chunk, Baldwin); New Jersey (Essex County, Kearfoot); District of Columbia, Maryland (Plummer's Island); Ohio (Cincinnati).

The smallest of our species and quite distinct, varies in extent of costal spots. The costal spot near the apex, instead of enclosing a pale spot, sometimes consists of two distinct ones.

XYLESTHIA Clem.

Dyar's List, p. 569.

Head entirely roughened. Tongue obsolete. Labial palpi ascending, second joint with a dense brush of coarse hair beneath, projecting forward; third joint thin, very short, thickened towards the apex with scales. Maxillary palpi filiform, 3-jointed, scaly, not folded. Antennæ two-thirds the wing length, more robust in the male; joints close set with verticillate scales, basal joint broadened, with pecten, rough haired. Forewings elongate, with scale tufts; 12 free veins; an accessory cell, vein 1^b furcate at base. Hindwings ovate, as wide as the forewings; 8 free veins, vein 8 inserted at three fifths; costa feebly emarginate in outer half. Hind tibiae rough haired.

A very distinct genus, not closely allied to any other. Clemens describes the maxillary palpi as "very short and concealed;" they are distinctly 3 jointed, very slender and rather difficult to see among the rough vestiture of the head.

The three species heretofore described belong, without doubt, to one *pruniramiella* Clem., to which, however, I have to add a new and very distinct species. The two species are distinguished as follows:

Cilia of forewing with dark dividing line, not distinctly barred.

pruniramiella.

Cilia with four light bars.....**Kearfottella.**

X. pruniramiella Clem.—Dyar's List, p. 569, 6476.—Head and maxillary palpi whitish; labial palpi and antennæ yellowish white, brush of former externally and scale whirls of latter ochreous fuscous. Thorax with fuscous spot. Abdomen fuscous. Forewings luteous, with white and dark brownish scales, so arranged as to form more or less distinct transverse lines. In some specimens

the white scales form five double lines, more or less irregular or interrupted—*Congeminatella* Zell.; again, these lines are almost obsolete, with the dark brown scales condensed across the middle of the wing and in its costal portion—*clemensella* Cham. A dark spot, with white edging before, at the apex. In some specimens the dark scales in the apical part of the wing have a violet or purple reflection; there are four scale tufts in the subplical part of the wing; a small one at end and another about middle of disk; these tufts are generally effaced, except in fresh specimens. Cilia fuscous, with two or three darker dividing lines. Legs yellowish white, dusted with fuscous; tarsal joints pale at apex. Underside of abdomen pale fuscous.

Exp. 12.0–18.0 mm.; 0.48–0.72 inch.

Hab.—Atlantic States, Kansas, Arizona.

X. Kearfottella n. sp.—Pl. I, fig. 7.—Head white, some ochreous hairs before the insertion and on the basal joint of the antennæ. Labial palpi white, outer side sprinkled with fuscous scales. Antennæ yellowish white, biciliate in male, cilia under one. Thorax white, intermixed with ochreous, a dark fuscous spot each side immediately behind the eye and before the insertion of the forewing. Abdomen above fuscous, segments edged with whitish, underside grayish fuscous. Forewings white, with tawny and fuscous, the white predominating in the costal and the tawny color in the dorsal half of the wing; the fuscous scales are arranged in transverse lines and bands, edged with whitish; a rather wide band at three-fifths, rectangular to the costa and extending one-half across the wing, between this band and the base are five or six narrower, transverse lines; apical part of wing fuscous in the middle, from which extend three bars into the dorsal and two into the costal cilia. Hindwings pale grayish fuscous; cilia pale yellowish, with darker dividing line about one-half their length. Legs grayish white, anterior and middle thickly, posterior more sparsely dusted with fuscous; tarsi fuscous, joints annulate with white at the apex.

Exp. 10.0 mm.; 0.4 inch.

Hab.—New Jersey (Montclair, Kearfott); Pennsylvania (Washington County).

It gives me pleasure to dedicate this species to Mr. W. D. Kearfott, from whom the type specimen—a male—was received. The other specimen—a female—was received from Mr. Henry Klages some years ago: it is rather mutilated.

ABACOBIA gen. nov.

Type *carbonella*.

Maxillary palpi short and rather thick, porrect, apparently 3-jointed, not plicate. Labial palpi slender and moderately long, rather widely separated, second joint slightly curved, clavate, with long, stiff, spreading bristly hairs beneath and on the side, third joint long and slender, scaly, with a few, scattered bristly hairs. Tongue obsolete.

Eyes large, somewhat prominent and widely separated beneath. Antennæ slender, scarcely exceeding one half the wing length; basal joint with pecten. Forewings elongate, pointed, without scale tufts; all veins present and free, 10 arises near end of cell; no accessory cell; 1^b furcate. Hindwings as wide as the forewings, ovate, costa retuse beyond middle; all veins present, 5 and 6 stemmed. Hind tibia roughened, with long, coarse hair. Ovipositor of female exerted.

The type of the genus resembles a *Tinea* of the *croceoverticella* group. The absence of plicate maxillary palpi, the peculiar formation of the labial palpi, which have the appearance of a branch of pitch pine, removes this genus from the neighborhood of *Tinea*.

A. carbonella n. sp.—Pl. V, fig. 1.—Entire insect, with exception of hindwings, dark fuscous brown; bristly hairs of labial palpi like those of the head, tipped with white. Forewings elongate, obtusely pointed; the general fuscous color is interspersed with scattered dark brown and also paler scales, the former aggregated into a spot at end of cell and also generally more dominant in apical part of wing where they are somewhat arranged into ill-defined lines. Hindwings pale fuscous, with brassy lustre, cilia concolorous, with paler basal line. Abdomen and underside of body ochreous fuscous. Tarsal joints paler at apex.

Expanse 14.0–19.0 mm.; 0.56–0.76 inch.

Hab.—Pennsylvania (Hazleton).

Seven specimens in my collection, all taken at electric light, in as many seasons. It has not occurred since 1900. A specimen sent to Lord Walsingham was returned under the MS. name *Tinea carbonella*, the specific name of which I have retained. The white tipped, rough hairs of head and palpi give them a peculiar, hoary appearance.

MONOPIS Hb.

Dyar's List, p. 570.

Head rough, tongue present; antennæ about three fourths the length of the forewings. Labial palpi porrect or somewhat drooping, second joint with apical bristles, third joint pointed. Maxillary palpi well developed, plicate. Posterior tibiæ rough haired. Forewings with a vitreous spot in the disk, corresponding to end of cell; all veins present, veins 3 and 4 stalked, vein 2 sometimes out of stem of 3 and 4; 1^b furcate at base. Hindwings 1, cilia generally under 1; all veins present, free, or rarely 5 and 6 stemmed.

According to variation in venation the species occurring in our fauna may be arranged in three groups as follows:

Vein 2 of forewing arising from common stem of 3 and 4; vein 7 and 8 stemmed.

Veins 5 and 6 of hind wing stemmed.....GROUP I.

All veins of hindwings free.....GROUP II.

Vein 2 of forewings arising from cell.....GROUP III.

GROUP I.

But one species, *M. rusticella* Hb., belongs here.

GROUP II.

Forewings with pale tornal patch.

Costa without dark spots before the middle.....**biflavimaculella.**

Costa with oblique, brown spots.....**marginistrigella.**

Forewings with a large trapezoidal costal spot, no tornal patch..**manachella.**

GROUP III.

Head and thorax whitish or yellowish white.....**dorsistrigella.**

Head and thorax saffron-yellow.

Dorsal margin of forewing yellow**crociacapitella.**

Dorsal margin of forewing not yellow**irrorella.**

M. rusticella Hb.—Dyar's List, p. 570, No. 6489.—Palpi pale, yellowish white. Head yellowish, antennæ dark brown. Thorax and forewings fuscous brown, with purple reflection, spotted with dark velvety brown and sprinkled more or less with whitish scales, which, on the costa, give rise to distinct, though inconspicuous spots; a pale patch above the vitreous spot and another at beginning of dorsal cilia, often absent in the female; cilia grayish, with darker dividing line. The vitreous spot does not extend beyond two-fifths the wing length. Hindwings over 1; grayish fuscous, with brassy or purplish reflection.

Exp. 14.0–20.0 mm. (Meyrick); 0.56–0.8 inch.

Hab.—Europe, Asia, North America, New York.

Four specimens in my collection from central New York (Ithica); in none of these is there any indication of the pale costal and tornal patches.

M. biflavimaculella Clem.—Dyar's List, p. 571, No. 6495.—Palpi yellowish, labials tinged with fuscous externally. Head pale ochreous, slightly mixed with brown in front. Antennæ dark fuscous, basal joint velvety black above. Thorax dark seal brown, with a large yellowish spot anteriorly and a smaller, less distinct one at its posterior extremity. Forewings purplish brown, with faint purplish reflection, with numerous, velvety brown, transversely placed spots; a large pale yellow subtrapezoidal costal spot occupying the middle third, two or three small dots on costa before the apex, a spot at beginning of dorsal cilia and some small dots in the basal part of the latter. Cilia fuscous, with three dividing lines. Hindwings pale yellowish, sparsely dusted with fuscous, cilia pale gray, with darker in the basal portion. Abdomen fuscous, apical half of segments above silvery gray. Legs yellowish, dusted with fuscous, more especially so the anterior pair.

Exp. 14.0–16.0 mm.; 0.56–0.64 inch.

Hub.—Atlantic States; Oregon (Corvallis); Washington Territory (Seattle); Texas (Fedora).

This is one of our well known Tineids. Its resemblance to *rusticella* is superficial; at once distinguished by the hindwings having all veins free, while veins 5 and 6 are stemmed in *rusticella*. The type of the species, in excellent condition, is in the Clemens' collection at the Academy of Natural Sciences, Philadelphia.

M. marginistrigella Cham.—Dyar's List, 572, No. 6511.—Palpi sordid pale yellowish, labials brownish externally, except the apex of third joint. Head yellowish; antennæ dark brown above, fuscous beneath. Thorax dark velvety brown. Forewings dark brown, intermixed with silvery white, and pale yellowish white scales; the white scales prevail along the entire costal and free dorsal margin, forming short, transverse strigulations upon the latter; immediately before the middle of costal margin they form a large, ill-defined patch, traversed by an irregular dark brown oblique streak which reaches to the vitreous spot, beyond this patch are three oblique streaks, and before it one distinct and a number of smaller spots, separated by white; a pale patch at beginning of dorsal cilia containing on the margin a small black dot. Cilia pale yellowish, with three darker dividing lines, three dark bars in the costal and irregularly streaked and spotted in the dorsal portion. Hindwings grayish white, dusted with fuscous towards the apex and having a slight brassy lustre. Abdomen above brown, intermixed with gray. Underside of abdomen and legs silvery white, tinged with yellowish; legs conspicuously spotted with dark brown.

Exp. 11.0–13.0 mm.; 0.44–0.52 inch.

Hub.—Kentucky (Chambers); Pennsylvania (Hazleton); New Jersey (Montclair, Kearfott); Louisiana (Vowells, Mills)

The above description varies somewhat from that given by Chambers, which, to me at least, made the recognition of this species with a shadow of certainty, very difficult if not impossible, but having carefully studied and compared the type with specimens in my collection, the authenticity is fully established. Instead of the white spots along the entire costal margin, as stated by Chambers, it is the dark oblique streaks which are more conspicuous. The pale lines in the costal cilia extend in some specimens into the wing proper.

M. monachella Hb.—Dyar's List, p. 530, No. 6490.

Mr. Meyrick gives the following description:

"Head and thorax white. Forewings less narrow, dark ferruginous fuscous, with numerous small dark ashy fuscous spots; an ochreous white trapezoidal blotch, extending along costa from before middle to near apex and reaching half across wing, lower side sinuate; a subhyaline spot in lower anterior angle of this. Hindwings brassy gray, darker posteriorly. Exp. 11–17 mm."

According to Mr. Busck a specimen of this European species from Canada is in the U. S. Nat. Mus. A specimen without locality label and probably determined by Zeller is in the Cambridge Museum.

M. dorsistrigella Clem.—Dyar's List, p. 571, No. 6502.

I here give Clemens' description of this species:

"Labial palpi yellowish, dark brown externally, third article yellowish. Head and front very pale yellow, tinged with dark brown on the sides above the eyes and at base of antennæ. Antennæ dark brown. Thorax dark brown, with the disc very pale yellow. Forewings blackish brown, somewhat tinged with obscure reddish, with a dorsal streak along the inner margin, whitish or pale yellowish white, and usually somewhat dilated above the anterior angle; with a costo-discal patch of the same hue, and the costa punctuated with pale yellowish atoms, which become small spots toward the apex of the wing and on the posterior margin. Hindwings pale brownish, with a reddish hue; cilia gray. Exp. 4.75-6.00 lines."

To this I wish merely to add that the thorax should be described as pale yellow, patagia dark brown. Abdomen above ochreous fuscous; body beneath and legs sordid grayish yellow. The antennæ pale fuscous. Two type specimens in good condition are in the Clemens collection at the Academy of Natural Sciences, Phila.

Exp. 12.0-14.5 mm.; 0.48-0.58 inch.

Hab.—Atlantic States; New Mexico (Las Vegas).

Common at light and on trunks of trees.

M. crociapitella Clem.—Dyar's List, p. 570, No. 6488, cited as synonym.

The author describes this species as follows:

"Labial palpi yellowish, dark brown externally. Head and front saffron yellow. Forewings dark fuscous, with dispersed saffron yellow scales, especially along the costa, with a saffron yellow dorsal streak and a paler, nearly round, discal spot. Hindwings pale brownish gray. Exp. al. 4.50 to 6.50 lines."

The "paler, nearly round discal spot" mentioned in the description is the vitreous spot and is situated in the middle of the wing-length. Thorax yellow, patagia dark brown. Legs and underside of body are pale yellowish, dusted with fuscous.

Exp. 11.0-16.5 mm.; 0.44-0.76 inch.

Hab.—United States.

Have seen specimens from every faunal district. Specimens from California are generally larger than the eastern forms. Heretofore, this species has been confounded with the European *M. ferruginella*

Hb. and recorded as such in our lists. Mr. A. Busck * first pointed out the differences between the two species, to which I may add that in *M. ferruginella* the hindwings are more elongate and less rounded at the apex, of a more fuscous color, with cupreous reflection and cilia fuscous.

M. irrorella n. sp.—Palpi pale yellow, labials more or less fuscous externally. Head saffron yellow. Antennæ fuscous, paler beneath, basal joint dark brown. Thorax dark velvety brown, tips of patagia yellowish. Forewings whitish, intermixed in nearly equal proportion with brown, the latter forming subquadrate spots and transverse or suboblique strigulations, the latter more marked along the costal margin. A markedly darker patch between the vitreous spot and the fold; the subpleural space has less of the dark scaling, except at the anal angle, which is dark brown. Cilia sordid white, with three dark dividing lines, basal portion brown; underside fuscous, with purple reflection. Hindwings grayish fuscous; cilia grayish, with a faint dividing line at $\frac{2}{3}$. Abdomen above fuscous, mixed with gray; underside of body and legs grayish, tinged with fuscous.

Exp. 11.0–14.5 mm.; 0.44–0.58 inch.

Hab.—Pennsylvania (Mauch Chunk, Hazleton); New York.

A number of specimens in my collection; taken at light and on trunk of an old cherry tree. A specimen submitted to Lord Walsingham for determination was returned as *Tinea aureosuffusella* Ch., to which, however, as will be seen, it bears no relationship.

TRICHOPHAGA Rag.

Dyar's List, p. 573.

Differs from *Tinea* in the neuration of the forewing; veins 10, 11 and 12 concurrent, running into vein 9 and thus attaining the costa.

The single species occurring in our fauna is the cosmopolitan.

T. tapetiella L.—Dyar's List, p. 573, No. 6532.—Head white; basal two-fifths of forewings dark purplish fuscous, remainder ochreous white, thinly strigulate with gray; a roundish gray posterior discal spot; some small black dots about the apex. Hindwings brassy gray.

Exp. 15.0–22.0 mm.; 0.6–0.88 inch.

As far as I am able to learn this species has thus far occurred only in the Southern States. In Dr. Dyar's List of North American Lepidoptera, *Tinea occidentella* Cham. is cited as synonym or variety—which?—it bears no relationship whatever to the species under consideration. The name has repeatedly been printed *tapezella*, which is erroneous.

* Proc. Ent. Soc. Wash., Vol. V, p. 184.

PHRYGANEOPSIS Wlsh.

Dyar's List, p. 573.

Head rough. Antennæ pubescent in both sexes. Maxillary palpi plicate; labial palpi three times the length of the head, porrect, clothed with coarse, hair like scales. Forewings rather broad; all veins present, free, 1^b furcate. Hindwings a little wider than the forewings, oval; all veins present. Abdomen compressed. Tibiæ rough haired, somewhat thickened.

P. brunnea Wlsh.—Dyar's List's, p. 573, No. 6536.—Head ochreous; palpi brown; antennæ whitish brown. Forewings chocolate-brown, with purple (♂) or greenish purple (♀) reflection. A pale, ochreous spot about the end of the cell and another at the middle of the dorsal border; two or three groups of similar scales on the outer half of the costa. Cilia concolorous. Hindwings brown (♂) or purplish (♀). Abdomen and legs brown, feet a trifle paler.

Exp. 20.0 mm. (♂)—25.0 mm. (♀); 0.8–1.0 inch.

Hab.—California.

The species is unknown to me in nature.

INCURVARIA Haw.

Dyar's List, p. 569.

Head rough. Tongue developed. Antennæ shorter than the forewing, ciliated in the male. Maxillary palpi folded; labial palpi variable in length, filiform, sometimes with terminal bristles of second joint; third joint pointed. Forewings subtriangular to ovate-lanceolate, all veins present, 1^b furcate; hindwings oval or ovate-lanceolate, all veins present, free, cilia under 1. Hind tibiæ rough haired, except *aureovirens*.

As here defined, the species occurring in our fauna, as far as known, may conveniently be arranged into three distinct groups, each having a subgeneric value, and the last of these probably distinctly generic. Scarcity of material must leave this question unanswered for the present:

Larger species; 10.0 mm. and more. Hindwings at least as wide as the forewings, oval, apex broadly rounded.

Forewings dark, fuscous or purplish brown, with pale fascias and spots.

Scales of hind wings oval, veins of forewings all free.....GROUP I.

Forewings unicolorous, or else ground color, white or grayish white, with dark brown fascias and spots, veins 7–8 stalked. Scales of hindwings hair like

.....GROUP II.

Smaller species; not exceeding 7.0 mm. Hindwings narrower than forewings, ovate-lanceolate, scales hair like

.....GROUP III.

GROUP I.

The two species belonging to this group are distinguished as follows :

Larger, 22.0 mm. Forewings with two entire fascias **oregonella**.
 Smaller, 14.0 mm. Forewings with one entire fascia **rusticella**.

I. oregonella Wlsh.—Dyar's List, p. 569, No. 6486.—Head orange-yellow, very rough above, smooth in front. Antennæ of male pubescent, scarcely one-half the length of forewing, annulated with white and fuscous. Forewings brown, with two fascias and a costal spot white, a fascia at the basal fourth, pointing obliquely inwardly from the costa and wider on the dorsal margin; another fascia slightly beyond the middle, which appears to consist of two elongate triangular spots, one on the costal and one on the dorsal margin, joined on the middle of the wing by a narrow streak running inwards and upwards and connecting the apex of the dorsal spot with that of the costal. Halfway between the fascia and the apex is a small elongate white costal spot, the cilia are also white, except at the angle where they are brown. Hindwings grayish ochreous.

Exp. 22.0 mm.

Hab.—Oregon (Canyon City on John Day's River).

Bred by the author from a larva boring into the stem of a species of *Saxifrage*. Thus far, only the type, a male, in his Lordship's collection, is known.

I. russatella Clem.—Dyar's List, p. 569, No. 6484.—Head ochreous yellow, palpi and basal part of antennæ pale yellow. Labial palpi ascending, third joint somewhat flattened and nearly as long as the second. Antennæ incrassate towards the base, joints not close set, bipectinate (♂) or finely pubescent (♀). Thorax golden brown, with some lustre. Abdomen dark fuscous brown. Forewings deep golden brown, with purple lustre in some lights; a yellowish white fascia commencing at one-third of costa, pointing obliquely backwards to and becoming wider towards the dorsal margin which it reaches at one-fourth; a large triangular costal spot beyond the middle and a similar one opposite to but a little further from the base, on the dorsal margin, of the same color. Cilia whitish around the apex, becoming brownish towards the posterior angle. Hindwings as wide as the forewings, oval, purplish brown, scales orbiculoid; cilia short, concolorous, paler towards the outer edge. Underside of wings brownish fuscous, with feeble purple reflection. Legs grayish white, anterior more or less fuscous, tarsi annulate with pale. Abdomen beneath pale yellow.

Exp. 12.0-14.0 mm.; 0.48-0.56 inch.

Hab.—New York (Ithaca); Canada (Montreal).

Three specimens in my collection. Lord Walsingham who saw the type—no longer existing—in the Academy of Natural Sciences, Philadelphia, in 1872, recognized this species as his *Lampronia tripunctella*. The small costal spot between the large costal spot and the apex is wanting in two and present in one of my specimens; the fascia near the base is figured as equidistant on both margins,

whereas it is oblique in all my specimens, corresponding thus rather with *oregonella*, Wlsh.; however, I have no doubt of their identity.

Mr. A. Busck,* not having seen this species, refers it to *Eudarcia* and identical with *T. cœmitariella* Ch.; this is erroneous. I have seen the type of the latter species in the Cambridge Museum, and there is not even a remote resemblance between the two forms.

GROUP II.

The species constituting this group are quite dissimilar in habitus from those of the first; abdomen and antennæ more slender.

Four species belong here, which may be thus separated :

Forewings white, with dark brown markings.

In large spots.....**piperella**.

In fascias.....**rhenmapterella**.

Forewings without markings.

Unicolorous, golden bronze.....**ænescens**.

Nearly unicolorous, creamy white.....**politella**.

1. piperella Busck.—Proc. U. S. Nat. Mus., Vol. XXVII, p. 775.—So closely does this species resemble *Greya punctiferella* Wlsh., that aside from generic differences, its recognition would be quite difficult. It is, however, a larger insect and has scarcely any of the pale yellowish color of the forewings.

Exp. 21.0 mm.

Hab.—Washington Territory (Pullman); Colorado (S. Park).

A mutilated specimen in my collection.

1. rhenmapterella n. sp.—Pl. I, fig. 4.—Head hoary, scales somewhat appressed. Labial palpi ascending, grayish white, dusted with fuscous externally. Tongue strongly developed. Antennæ slender, and one-half the length of forewings, yellowish white from the base passing into deep brown beyond the middle. Thorax deep brown, with a white stripe each side of median line, widest anteriorly. Forewings elongate-oval, white, marked with dark brown as follows: base, a large semi-oval costal spot, a curved fascia beginning at one-third of costa, concave towards the base and attains the dorsal margins at one-half the distance from the base than the costal extremity, a transverse, slightly curved fascia at the middle, a Y-shaped, confluent fascia beyond the middle and connecting at the dorsal margin with the wide apical border. Cilia grayish fuscous, becoming whitish apically; underside shows dark markings of upper side but more diffusely towards the apex. Hindwings white, with a faint grayish tinge and rather thickly dusted with fuscous on costal half of apex. Cilia white under 1, underside with fuscous scales along costal margin and about apex. Abdomen dark fuscous brown above. Thorax beneath brown, overlaid with silvery white scales, underside of abdomen yellowish brown. Legs grayish white, tarsi tinged with yellowish.

Exp. 11.0 mm.; 0.44 inch.

* Proc. Ent. Soc. Wash., Vol. V, p. 193.

Hab.—Colorado (Durango).

Two female specimens in my collection. A very distinct and easily recognized species.

I. ænescens Wlsh.—Dyar's List, p. 569, No. 6478.—“Antennæ whitish at base, tending to piceous beyond. Palpi whitish. Head yellowish white. Thorax, forewings and cilia unicolorous, pale, golden brown. Hindwings purplish gray: cilia gray. Abdomen grayish. Lateral claspers elongate, triangular, upturned, deeply excised beneath near the base and with an inwardly projecting short point at their lower extremity; uncus short, obtuse, projected but not hooked.”

Exp. ♂, 14.0 mm.; ♀, 12.0–13.0 mm.

Hab.—Oregon (Rogue River). U. S. Nat. Mus. collection. I have not seen this species.

I. politella Wlsh.—Dyar's List, p. 569, No. 6482.—Head, palpi, thorax and wings a pale yellowish white, with a faint grayish tint, particularly at base of costa and along veins. Last joint of labial palpi flattened. Scales of head somewhat appressed. Antennæ slender, dark fuscous, about two-fifths the length of forewings, joints longer than wide, feebly unipectinated in the male. Forewings elongate-oval. Hindwings more grayish. Abdomen and legs grayish fuscous. Cilia concolorous.

Exp. 14.0–17.0 mm.; 0.56–0.68 inch.

Hab.—Oregon (The Dalles and Rogue Rivers); Colorado (S. Park; Chimney Gulch).

Three specimens, 2 males, 1 female, from Colorado and determined by Lord Walsingham, do not show the æneous tinge mentioned by his Lordship in the description of the species. The labial palpi, which are rather long, are strongly ascending in one specimen, and with the third joint slightly drooping in the other two.

GROUP III.

The two species of this group, I refer with grave doubts to the genus under consideration, they are small, scarcely exceeding one-quarter inch in expanse. Forewings ovate-lanceolate, fuscous brown, with æneous lustre and pale fascia and marginal spots; hindwings ovate-lanceolate, pointed, with hair-like scales, and are distinguished as follows:

Head fuscous brown; no spot in apical part of forewing. **labradorella.**
Head sordid white; a pale spot in apical part of wing. **aureovirens.**

I. labradorella Clem.—Dyar's List, p. 569, No. 6480.—“Forewings fuscous, with a brassy hue, with a white band at the basal third of the wing and an opposite dorsal and costal spot of the same hue at the apical third of the wing and which nearly meet in the middle of the wing. Cilia concolorous with fore-

wings.' Hindwings fuscous, somewhat iridescent. Head and antennæ dark fuscous."

Exp 7.0 mm.; 0.28 inch.

Hab.—Labrador.

I have seen the type in the collection at the Academy of Natural Sciences, Philadelphia, and have nothing to add to the description given by Dr. Clemens, except that the antennæ are closely approximate at their insertion between the eyes, which is not the case in *aureovirens*.

I. aureovirens n. sp.—Head sordid white, a little more dusky on lower part of face. Maxillary palpi fuscous, labials rather short, drooping, silvery white, faintly dusted with fuscous. Antennæ fuscous. Thorax golden brown. Forewings elongate, ovate-lanceolate, golden brown, with feeble greenish reflection; a white fascia, rather narrow and of equal width, at one-third, at right angle to the dorsal margin and terminating in a point on the costa, an elongate triangular spot on the costa at two-thirds and opposite to a similar though more elongate spot on the dorsal margin, the apices of these two spots almost meet; between these spots and the apex is an irregular spot in the middle of the wing; these spots like the fascia white. Cilia fuscous in basal part becoming silvery gray towards their free margin. Hindwings ovate-lanceolate, narrower than the forewings, fuscous; cilia concolorous, over 1. Underside of wings fuscous, those of forewings with some metallic lustre, hindwings paler. Legs grayish fuscous, with some metallic lustre, hind tibiæ not rough haired.

Exp. 6.5 mm.; 0.26 inch.

Hab.—Pennsylvania (Hazleton).

A single specimen in my collection, taken on the wing in June, 1899. It is minus abdomen. Very close to and congeneric with the preceding species, but from which it is sufficiently distinguished by the characters noted.

GREYA Busck.

Proc. Ent. Soc. Wash., Vol. V, p. 194.

Differs from *Incurvaria* only in venation. Forewings with 11 veins, vein 10 absent, all separated. Hindwings as wide as forewings, all veins present, free.

The three species included in this genus by Mr. Busck may be separated as follows:

- Wings unicolorous, grayish brown **humilis**.
- Not unicolorous, ground color whitish or yellowish white.
- Spotted with fuscous **salenobiella**.
- With 18-20 dark brown spots **punctiferella**.

I. humilis Wlsh.—Dyar's List, p. 569, No. 6479.—"Of uniform, grayish brown color, hindwings slightly darker than the forewings; legs scarcely paler."

Exp. 13.0-14.0 mm.; 0.52-0.56 inch.

Hab.—California (Crescent City).

The type (♂) in Lord Walsingham's collection. I have not seen this species.

I. solenobiella Wlsh.—Dyar's List, p. 569, No. 6485.—"Head and palpi whitish. Antennæ cinereous, somewhat annulated with whitish towards the base; slightly pubescent in the male. Forewings whitish, thickly sprinkled with rather shining, yellowish brassy scales, more conspicuous in the female than in the male, and grouped into irregular blotches, especially along the apical margin and about the middle of the wing. Cilia whitish. The hindwings are pale, grayish cinereous, the cilia the same. The male is slightly larger than the female, and has more the appearance of a *Solenobia*, especially when slightly worn."

Exp. ♂, 18.0 mm.; ♀, 16.0-17.0 mm.

Hab.—California (near S. Francisco).

The above is Lord Walsingham's description. Not known to me in nature.

I. punctiferella Wlsh.—Dyar's List, p. 569, No. 6483.—Antennæ half as long as forewing, straw colored at base, brownish beyond. Palpi very short, depressed, third joint half as long as the second. Head and thorax straw colored. Forewings pale straw colored, with from 18-20 chocolate-brown colored spots, varying in size, number and distribution; those on the outer half of the wing have a tendency to form two oblique lines, running parallel to outer margin; base of costa tinged with brown; underside brownish; cilia pale. Hindwings cinereous gray; cilia concolorous; underside pale grayish.

Exp. 15.0 mm.; 0.6 inch.

Hab.—California (Mendocino County); Oregon (Rouge River).

CYANE Cham.

Dyar's List, p. 573.

Head rough haired. Labial palpi semi-ascending, spreading, robust and of moderate length; second joint thickened towards the apex and roughened beneath with lateral and apical setæ, third joint nearly as long as the second, grooved beneath longitudinally, scaly. Maxillary palpi plicate. Antennæ of moderate thickness, a little over one-half the anterior wing length, tapering towards the apex, joints close set with verticillate scales, unicolorate in the male. Forewings elongate oval, 12 veins, 2 close to angle of cell, 1^b simple. Hindwings rhomboidal, as wide as the forewings, costa nearly straight, dorsal margin strongly rounded to the apex, 7 veins, 2 remote from angle of cell, 3 wanting. Posterior tibiæ rough haired.

Chambers describes the palpi as devoid of bristles, they are well marked in fresh specimens, the third joint is not merely flattened but sulcate beneath, and the hindwings are not wider than the forewings.

Only one species known :

C. vesatiella Cham.—Pl. VI, fig. 5.—Dyar's List, p. 573, No. 6535.—Head sordid yellowish white, intermixed on the vertex with brown. Maxillary and labial palpi yellowish white, second joint of latter externally and a spot on the terminal, as well as setæ, dark brown. Antennæ yellowish white, annulate with brown. Thorax brown, mixed with whitish in posterior two-thirds. Forewings grayish fuscous; extreme base, costa and adjacent part of wing dark brown, just beyond the middle the brown expands into a large spot, extending fully one-half across the wing, before this spot the brown costal margin is interrupted by about three or four, and beyond it by two white, somewhat oblique striæ; a dark spot near base of dorsal margin and obliquely above two more, a spot in middle of dorsal margin, and between it and the large costal spot is another smaller spot; dorsal cilia whitish, costo-apical dark brown, containing three white spots. Hindwings grayish fuscous; cilia a shade paler, with a faint darker line near the base. Abdomen fuscous, darker posteriorly, anal brush pale brown. Underside of wings and abdomen brownish fuscous. Legs greyish fuscous.

Exp. 8.5–11.0 mm.; 0.34–0.44 inch.

Hab.—Kentucky, Pennsylvania, New Jersey, New York, Florida, Louisiana.

Specimens in my collection from the localities named, except Kentucky. There is some variation in the relative predominance of the brown and pale coloring of the forewings. In a specimen from Florida, the spots on the dorsal margin become bands, and there is a suffusion of golden brown in the apical part of the wing.

BRECKENRIDGIA Busek.

Proc. Ent. Soc. Wash., Vol. V, p. 193.

Type *acerifoliella*.

Head rough, labial palpi rather short, drooping; second joint with a few setæ. Maxillary palpi plicate. Antennæ stout, somewhat flattened, joints closely set with scarcely perceptible denticulations, glabrous in both sexes, basal joint with pecten. Forewings elliptical, broad, equally narrowed from both margins towards the apex. 11 veins, veins 2, 3 and 4 parallel and at almost right angle to the dorsal margin, 5 absent, 1^b furcate. Hindwings as wide as forewings, subtrapezoidal, scales filiform; 8 veins, 5 6 short stemmed, 1^b furcate. Cilia under 1. Hind tibia rough haired.

In Mr. Busek's opinion it is vein 4 of forewing which is wanting, in this I must beg to differ from him. The furcation of vein 1^b of hindwing is anomalous.

B. acerifoliella Fitch.—Pl. V, fig. 4.—Dyar's List, p. 569, No. 6476.—Head russet-yellow. Palpi fuscous. Antennæ blackish brown, pecten of first joint russet. Thorax dark brown, with golden green and bluish scales. Abdomen bronzed brown. Forewings dark fuscous, overlaid with deep, bluish purple scales; scattered over the disk and along the apical veins are some bright green, hair-like scales; both margins narrowly edged with golden. Cilia fuscous, sprinkled with bluish scales; underside fuscous brown, with purple reflection. Hindwings pale grayish fuscous, with a feeble, purple lustre, margin narrowly edged with pale metallic scales. Cilia pale fuscous; underside similar to upper. Underside of body dark fuscous, with some silver-white scales. Legs grayish, tinged with dark fuscous, basal half of tarsal joints paler.

Exp. 11.5–13.5 mm.; 0.36–0.54 inch.

Hab.—Atlantic States; British Columbia (Kaslo).

I took two specimens (males) flying low at dusk, May 22, 1897.

The following species greatly resembles the preceding in general habitus, and for this reason alone shall place it here provisionally. Generically it differs from *Breckenridgia* by the forewings with all veins present, free, 2, 3 and 4 parallel but reaching the dorsal margin at an acute angle; apex more obtusely pointed and the dorsal margin more strongly curved towards the apex. Hindwings less pointed at apex. The antennæ are robust, somewhat flattened and finely pubescent (♂); hindwings as wide as forewings, veins 5–6 short stemmed; scales hair like. Mouth parts and vestiture of head too mutilated to give an accurate description.

B. ? chrysurella n. sp.—Head, antennæ, thorax and anterior half of abdomen dark blackish brown. Wings uniformly coffee-brown, with scarcely a lustre. Cilia concolorous. Underside same as above. The last four abdominal segments, above and beneath, as well as the sexual armature, thickly clothed with coarse fulvous pubescence. Anterior and middle legs fuscous brown, posterior yellow; tarsal joints banded with brown.

Exp. 15.0 mm.; 0.6 inch.

Hab.—Colorado.

A male specimen in my collection. The conspicuous deep yellow, pubescens forms a strong contrast to the otherwise sombre appearance of the insect.

ISOCORYPHA gen. n.

Type *mediostriatella*.

Head strongly roughened. Labial palpi moderate, second joint with lateral setæ, terminal pointed. Maxillary palpi plicate. Antennæ rather thick and as long as the forewings, simple in both sexes. Forewings elongate, pointed; 12 veins, 7 and 8 short stemmed, 1^b not furcate. Hindwings ovate-lanceolate, costa nearly

straight, slightly excised in its apical two-fifths; 8 veins, anterior median concurrent with 8 and sending a short oblique vein to the beginning of vein 7. Hind tibiae roughened with long, stiff hairs.

The type of the genus was placed by Clemens in *Iucurvaria* with a remark to its doubtful position in the same. I have one other species to add to the genus.

The two species are distinguished as follows:

Antennae yellow; longitudinal stripe of forewing not including the anal angle.

mediostriatella.

Antennae fuscous; stripe commences at base of dorsal margin.

chrysocomella.

I. mediostriatella Clem.—Pl. V, fig. 5.—Dyar's List, p. 569, No. 6481.—Head deep ochre-yellow. Labial and maxillary palpi yellowish, former fuscous brown externally and beneath. Antennae pale yellow throughout. Thorax a deep dark brown. Forewings dark purple-brown, a broad stripe beginning in middle of base and leaving each margin free, extends longitudinally through middle of wing and half its length; immediately beyond and very narrowly separated from it is a large dorsal spot, and opposite to it but a little further an oval costal spot, which, however, leaves the extreme costa free, all pale golden yellow; apical cilia pale yellow, remainder brown, a few minute yellow dots along base of cilia; brown part of wing dusted with very fine, yellowish scales; underside purple-brown. Hindwings golden brown, scales oval; cilia fuscous, scarcely over 1; underside brown, paler than the forewings. Underside of body and legs silvery gray, tinged with yellowish and dusted with fuscous.

Exp. 8.5–9.0 mm.; 0.34–0.36 inch.

Hab.—Atlantic States.

I have taken this species in August and September in damp localities; also attracted by light.

I. chrysocomella n. sp.—Head deep sulphur-yellow. Palpi pale yellow, labials tinged with fuscous externally. Antennae brownish fuscous, paler beneath and not quite as long as forewings. Thorax sulphur-yellow, slightly intermixed with brown. Forewings a reddish brown, a longitudinal stripe, beginning at the anal angle and basal part of dorsal margin, somewhat curved and becoming wider posteriorly, reaching to middle of wing length, where it connects with a large costal spot which includes extreme costa, and opposite to which and a little further is a dorsal spot which extends into the cilia, all bright golden yellow; the brown part is sprinkled with pale, whitish hair like scales, apical part with yellow scales. Cilia brownish, yellow around the apex. Hindwings brownish fuscous. Underside of body and legs grayish fuscous, tarsi annulate with pale

Exp. 7.0 mm.; 0.28 mm.

Hab.—Kansas (Onaga).

A single specimen in my collection. Very similar to and yet very distinct from the preceding.

TINEA L.

Head entirely rough haired. Maxillary palpi long, polyarticulate, plicate. Labial palpi moderately long, more or less porrect, somewhat drooping, or else semi-ascending, cylindric, the second joint often thickened towards the apex, in some species roughened beneath with scales; generally with spreading apical setæ; terminal joint shorter than the second, more or less acutely pointed. Tongue very short or nearly obsolete. Antennæ shorter than the forewings, generally a little thicker and very finely pubescent in the male, basal joint at times with pecten. Forewings elongate, pointed, more rarely moderately wide; 12 veins, 7 to costa, 4 and 5 free (except *rileyi*), ¹*b* furcate, with or without accessory cell. Hindwings ovate to nearly lanceolate; as wide or wider than the forewings, in which case the costal margin is not or very feebly retuse towards the apex, or else narrower than the forewings, in which case the wing becomes more pointed, and the costal margin is distinctly retuse or emarginate beyond the insertion of vein 8. Cilia under 1 in the broader winged to 1 in the narrower winged forms. Hind tibia rough haired.

A genus of great extent, having representatives in every part of the globe. I have here, as elsewhere, preferred to arrange the species into groups according to natural affinities, rather than into a long synoptical table, though it must be admitted that in a few instances, especially where a species was known by description only, the given position may not remain tenable.

The species have been arranged in groups as follows:

Hindwings as wide or wider than the forewings, vein 8 generally reaches the margin very near to the apex; costal margin not or scarcely retuse near the apex.

Stigmata of forewing distinct.

Forewings yellow to fuscous. Head never white.

fuscipunctella Group.

Head and ground color of forewings whitish **occidentella** Group.

Stigmata generally obsolete, first discal always absent; color dark brown, stigmata, when present, pale **croceoverticella** Group.

Hindwings under 1; vein 8 reaches the margin at one-half or three-fifths, costa emarginate beyond. Stigmata generally obsolete.

Markings of forewings predominantly in longitudinal lines.

oregonella Group.

Without strongly marked longitudinal lines **defectella** Group.

Fuscipunctella Group.

The species which comprise this group resemble each other in general appearance and mode of wing markings. Ground color of forewings ochreous or grayish, with an ochreous tinge, dusted and marked with dark fuscous; stigmata generally all present. Hind wings as wide or wider than the forewings (except *bimaculella*), costa not or feebly retuse beyond the insertion of vein 8, which attains the margin about three-fourths or four-fifths the wing length. Head never white.

I have arranged the species as follows:

Forewings with large, well-marked costal spots; eyes as widely separated beneath as their diameter.

Ground color of forewings ochreous **misella**.

Forewings grayish fuscous **obscuristrigella**.

Costal spots, when present, small and irregular; eyes separated beneath less than their diameter.

Forewings ochreous; stigmata all present.

A semi-circular spot on base of forewing **fuscipunctella**.

Without such a spot.

A dark streak from base to apex **apicimaculella**.

Without such a streak.

Dark spot on middle of dorsal margin **orleansella**.

Without such a spot.

A row of spots in the fold.

Forewings stramineous **straminiella**.

Costal half of forewing fuscous brown **bimaculella**.

Fold without row of spots.

Without transverse lines.

Wings broader, pale yellow **trimaculella**.

Wings more elongate, ochreous brown **carriariella**.

With transverse lines **griseella**.

Forewings pale gray to grayish fuscous, tinged with ochreous; first discal spot often absent or ill-defined.

With paler lines in apical part of wing **grumella**.

Without pale line.

Forewings nearly unicolorous **pellionella**.

Forewings not unicolorous **miscella**.

T. misella Zell.—Dyar's List, p. 572, No. 6514.—Maxillary palpi ochreous; labial palpi moderate, ochreous, more or less fuscous externally, second joint setulose beneath and at the apex, third joint somewhat compressed, pointed. Head ochreous brown, more so on vertex. Thorax brown, patagia paler. Antennae brown, indistinctly annulated with yellow, basal joint with pecten. Forewings elongate-elliptic, ochreous, overlaid in varying density with dark brown; basal half of costa with numerous dots almost concealing the ochreous; beyond the middle are two large, subquadrate spots, and between them a smaller dot (some-

times wanting); beyond these are three, somewhat smaller and more oblique spots, narrowly separated by curved ochreous lines; a large spot at end of cell and one on the fold about middle of wing length, on the remaining part of the wing the dark scales are arranged in ill-defined, irregular patches, having generally, and especially in the apical part, a transverse direction. Cilia ochreous, costal portion with three bars, dorsal portion sprinkled with brown scales. Underside fuscous, with purple reflection, especially in costal part of wing. Hindwings fully as wide as the forewings. Costa scarcely retuse, fuscous brown, with purple reflection; cilia grayish fuscous. Abdomen brownish above, underside of body and legs ochreous, tinged with fuscous, especially the anterior pair.

Exp. 15.0-23.5 mm.; 0.6-0.94 inch.

Hab.—Europe; Texas (Kernville; Harris County); Florida; Pennsylvania (Hazleton).

Mr. Meyrick, in his Handbook of British Lepidoptera, gives the expanse of this species as 12-16 mm., which is considerably below the above given measurements, taken from specimens before me. I have seen a specimen in the Cambridge collection, collected by Boll and determined by Zeller, and another specimen from the same collector, in the U. S. Nat. Mus., determined by Lord Walsingham.

I. obscurostrigella Ch.—Dyar's List, p. 572, No. 6517.

The following is Chamber's description: Dark fuscous; the primaries obscurely mottled with sordid yellowish; there is a row of indistinct yellowish spots or streaks on the costa, from the middle to the tip and along the base of the dorsal cilia. Al. ex. $1\frac{3}{6}$ inch. Season, October.

Specimens in my collection agree so well with the above description, that I do not hesitate to consider them identical, and add the following supplementary description:

Palpi pale yellow, labials more or less fuscous externally, second joint roughened beneath by scales, with external and apical bristles, terminal joint somewhat compressed, shorter than the preceding, obtusely pointed. Head ochreous brown. Antennae brown, annulate with pale. Thorax ochreous brown, with some purple lustre. Forewings elongate, sordid ochreous fuscous, overlaid with dark brown. Markings very similar to *misella*, but owing to general dark color, much more obscure. Cilia grayish fuscous. Hindwings fully as wide as the forewings, dark purplish brown, pointed; cilia fuscous. Abdomen above fuscous. Underside of body and legs sordid ochreous, dusted with fuscous.

Exp. 12.0-17.0 mm.; 0.48-0.68 inch.

Hab.—Texas (Chambers); Illinois; Pennsylvania (Hazleton).

I have taken this species not infrequently at electric light. A specimen of this species sent to Lord Walsingham for identification was returned as a *Tinea* n. sp.; however strongly I might be

inclined to accept his Lordship's opinion in this matter. I believe the above identification correct. The type is not in Cambridge or Washington. It is closely allied to *misella*, from which it differs by its general, dark fuscous appearance, the ochreous tinge scarcely perceptible in most specimens; third joint of labial palpi shorter, wider and more obtusely pointed, and the hindwings more acutely pointed.

T. fuscipunctella Haw.—Dyar's List, p. 571, No. 6503.—Palpi pale ochreous, labials fuscous externally. Head ochreous russet, intermixed with brown. Antennæ brown. Thorax ochreous brown, darker anterior. Forewings elongate, pointed, pale ochreous, overlaid in varying density with dark brown, with some lustre; costa dark fuscous, with numerous but rather minute pale dots, at times entirely obsolete, except towards the apex; the fuscous coloring predominates above the fold, a dash along the latter. Stigmata very pronounced, second discal large; an oblique bar from base of costa to fold, extending thence perpendicularly to dorsal margin, forming thus a semi-circle. Cilia ochreous, more or less spotted with fuscous. Hindwings as wide as the forewings, grayish, with brassy lustre. Cilia grayish. Abdomen above, ochreous brown. Under-side of body and legs ochreous, more or less tinged with fuscous.

Exp. 11.0-17.0 mm.

Hab.—Europe; North America, etc., nearly cosmopolitan. Specimens occur, especially from the western part of our country, in which the forewings are almost entirely pale ochreous, the dark scales reduced to the stigmata, plical dash and basal semi circular spot.

T. apicimaculella Ch.—Dyar's List, p. 570, No. 6492.—"Antennæ and outer surface of the palpi brown, inner surface of the palpi and the apex yellow; head sordid yellowish; thorax and forewings above the fold yellowish and dusted with fuscous so as to obscure the ground color; there is a large brown spot about the middle of the wing and one at the end of the disc and behind it, the apical part of the wing is marked with more or less obliquely transverse rows of small dark brown spots; beneath the fold the wing is but little suffused with fuscous. Al. ex. $\frac{1}{2}$ inch."

The above is Chamber's description, and while I entertain no doubt of the identification of the species, the description may be amplified, and to some extent modified, as follows:

Second joint of labial palpi strongly roughened beneath with dark brown scales. In all specimens before me the thorax, except apices of patagia, dark purple-brown; the dusting in costal half of forewing consists of a well-marked stripe extending from base to apex, above it, except costa, the dusting is less dense and becomes more evanescent beyond the middle; the longitudinal stripe expands toward the costa before the apex; "the obliquely-transverse rows of

small, dark brown spots" are difficult to identify, though fairly well marked in one specimen, what is marked, however, are a row of large spots surrounding the apex, and from these extend dark lines along the veins. The spot in middle of wing is on the fold.

Exp. 11.0-14.5 mm.; 0.44-0.58 inch.

Hab.—Kentucky; New Jersey (Montclair); District of Columbia; Kansas (Onaga); Georgia (Forsyth); Florida (Hastings); Missouri (St. Louis); Louisiana (Vowells' Mills).

T. orleansella Ch.—Dyar's List, p. 572, No. 6519.—"Straw color or pale yellowish, thickly dusted with fuscous; a discal fuscous spot about the middle of the wing, and another opposite to it on the dorsal margin; a row of dark brown spots around the apex, a dark brown spot on the base of the costa and an obscure one at the inner angle; the apical portion of the wing is thickly dusted. Antennæ grayish stramineous; head and palpi sordid stramineous, the outer surface of the palpi brown. Al. ex. $\frac{2}{3}$ inch."

Hab.—Louisiana (New Orleans, in November).

The above is Mr. Chamber's description. The type, in very poor condition, is in the Cambridge Museum collection. Seems to correspond in size and form of wings with *trimaculella* Ch; there is a heavy dash in the fold, middle of wing length; this, no doubt, is the spot referred to by Chambers on the dorsal margin; the discal spot is smaller and a little nearer the base than the former; second discal (not mentioned in the description) is distinct and somewhat transverse, along the costal margin are some hamate spots and dots, fuscous in color. Labeled by Chambers.

T. straminiella Ch.—Dyar's List, p. 573, No. 6528.—"Head sordid yellowish; palpi, antennæ, thorax and anterior wings straw color; palpi brownish externally; sides of thorax behind the eyes brown; a row of small brown spots along the fold, another at the end of the disk. Apex dusted with brown. Al. ex. $\frac{1}{2}$ inch."

Hab.—Kentucky (in June).

Have not seen anything to correspond with the above description.

T. bimaculella Ch.—Dyar's List, p. 571, No. 6496.—Palpi pale yellow, second joint of labials brownish externally, fringed with setæ along its entire lower edge. Head yellowish. Antennæ pale yellowish, indistinctly annulate with pale fuscous above. Thorax pale yellow, patagia brown. Forewings rather narrow, pointed, pale yellow, supra-plical part of wing overlaid with brownish scales, except a stripe which starts broadly on the costa before the apex and extending obliquely to beginning of dorsal cilia where it connects with the yellow subplical part of the wing; on the fold are three or four dark brown spots which extend to some extent into the pale yellow below the fold; a less distinct spot at end of cell. Cilia pale yellow, speckled with fuscous scales. Hindwings nar-

rower than the forewings, pointed, grayish. Cilia concolorous, ochreous towards the base. Abdomen fuscous above; underside of body and legs yellowish, anterior and middle tibiae and tarsi tinged with fuscous.

Exp. 8.0-9.5 mm.; 0.32-0.38 inch.

Hub.—Kentucky; Pennsylvania (Hazleton); New Jersey (Essex County).

The above description is somewhat at variance with Mr. Chamber's description; he describes the thorax as entirely black—this is not so. I have seen his type in Cambridge, which fully agrees with specimens in my collection, and one of which had been determined for me by Lord Walsingham. It is one of our smallest species.

T. trimaculella Ch.—Dyar's List, p. 572, No. 6525.—"Pale stramineous, the head a shade deeper yellow; thorax and primaries dusted with pale fuscous; two small fuscous spots upon the disc about the middle, the one nearest the costal margin being the most indistinct, and a third one more distinct at the end of the disc; posterior wings shining pale or whitish yellow. Alar ex. $\frac{7}{16}$ inch. Kentucky."

The above description (Chambers) tallies well with specimens in my collection, although the discal spot nearer the costa is certainly not less distinct than the plical spot. The palpi robust, third joint coniform, second joint roughened beneath with scales, entirely ochreous fuscous, paler at the apex; the dark dusting of forewings more pronounced along the costa and in the apical part of the wing, leaving the veins in the latter rather free; costal part of base dark fuscous. Antennæ pale fuscous. Underside of body and legs yellowish, anterior and middle tibiae and tarsi dark brownish fuscous, those of hind legs paler; tarsal joints paler at apex.

The specimens before me expand 13.0-14.0 mm., which is somewhat in excess of that given by the author.

Hub.—Kentucky; Washington, D. C. The specimens before me were received from Mr. A. Busck.

T. carnariella Clem.—Dyar's List, p. 571, No. 6497.

Dr. Clemens give the following description:

"Palpi dark brown. Head and front rather dark ochreous, tinged with reddish. Forewings pale yellowish brown, dusted with fuscous, especially at the costal portion of the base; with a conspicuous dark brown spot on the end of the disc, with two smaller spots of the same hue between this and the base of the wing, one about the middle of the disc, and the other beneath it in the submedian fold; fringes unicolorous and rather paler than the general hue. Hindwings pale bluish gray; fringes somewhat darker. Exp. al. 5.50 to 7.50 lines; 18.0 mm."

As already pointed out by Mr. Busck,* this species is entirely distinct from *pellionella* L.; the type at the Academy of Natural Sciences of Philadelphia is in good condition (one pair of wings only); the fuscous dustings of the forewings especially along the costa and in the apical portion; the spot at end of cell is transverse. Similar to *grumella* Zell., which it also resembles in the pale lines in the apical part of the wing, but it lacks the marginal spots of that species and the plical spot is absent; aside from these, it is an altogether darker species; veins 7 and 8 of forewing are stemmed.

T. griseella Ch.—Dyar's List, p. 572, No. 6520, syn.—“Palpi brown; head and antennæ sordid yellowish gray; head and antennæ brownish gray, with a small brownish spot within the dorsal margin before the middle, another still more faint on the disc, and a more distinct one at end of the disc. Alar. ex. $\frac{5}{16}$ inch. Kentucky.”

The above is Chambers' description of a species which has heretofore been referred to in our lists as a synonym of *pellionella* L. However, since I have examined the type in the Cambridge Museum collection, I must consider it a distinct species which does not tally well with the author's description, and which therefore I take leave to supplement as follows:

Labial palpi ochreous, tinted with fuscous without, third joint fuscous within. Head ochreous russet. Forewings like those of *pellionella* in shape, sordid ochreous, with numerous, irregular transverse lines, more distinct in outer half of wing; a dark dash immediately below the fold at two-thirds of its length, an ill-defined, slightly curved line in the subplical space at two-fifths of the fold; hindwings over 1, costa scarcely emarginate; second discal spot distinct. The dash below the fold is no doubt the “small brownish spot within the dorsal margin.”

T. grumella Zell.—Dyar's List, p. 572, No. 6570.—Maxillary and labial palpi ochreous, the latter of moderate length, slender; terminal joint one-half as long as the second, the latter fuscous above and beneath. Head dark russet; antennæ pale fuscous above, paler beneath. Thorax ochreous, dusted with fuscous and having a somewhat metallic lustre; patagia dark brown at base. Forewings elongate, pale grayish ochreous, thinly dusted with fuscous, with considerable lustre, extreme costa dark fuscous towards the base, the dusting more dense from the base of costal half of wing, the part beyond the cell evenly and thinly dusted, with pale lines corresponding to the veins. A large transverse spot at end of cell and from which a dark shade extends to both margins; midway between this spot and base of wing is a small first discal dot, nearer to costa than dorsal margin; at two-thirds of the fold is a spot which extends as a line towards the base; subplical space very thinly dusted with dark scales; a row of distinct, dark spots along the base of the costal and dorsal cilia, latter pale fus-

* Trans. Ent. Soc. Wash., Vol. V, p. 185.

cous, nearly concolorous. Hindwings a little wider than the forewings, costa slightly emarginate towards the apex, pale gray, with yellowish tint; cilia concolorous. Abdomen above, underside of body and legs pale ochreous, more or less tinged with fuscous.

Exp. 14.0–16.0 mm.; 0.56–0.64 inch.

Hab.—Massachusetts (Zeller); Maine (Orr's Island); Washington (Pullman).

Specimens in my collection from Orr's Island have the head a trifle more reddish than those from the last mentioned locality. Its close relationship to *earnariella* has been referred to under that species.

T. pelliouella L.—Dyar's List, p. 572, No. 6520.—Palpi sordid pale ochreous, dusted with fuscous. Head ochreous or reddish ochreous. Forewings elongate, pointed, and like the thorax pale grayish ochreous, more or less dusted with fuscous, especially along the costa and in apical part of wing; stigmata generally distinct, first discal and plical spots smaller, sometimes linear or obsolete, second discal rounded, well marked. Cilia grayish, dusted with fuscous along the base. Hindwings over 1, pale gray, tinted with yellowish; cilia concolorous. Underside of body and legs pale grayish ochreous, tinged with fuscous.

Exp. 10.0–15.0 mm.; 0.4–0.6 inch.

Hab.—North America, Europe.

Mr. Meyrick gives the expansion as 10–13 mm. The larger specimens before me correspond in some respects to the description of *pallescentella* St.; one of these has a pale dash immediately before and behind the second dorsal spot, but there are no whitish spots beyond as in the latter species.

The species varies considerably in appearance according to the greater or lesser density of fuscous dusting. A specimen in my collection is of an almost uniform dark fuscous color and strong, somewhat metallic lustre; first discal and plical spots obsolete. I do not feel warranted to consider it distinct, but appears to be a well marked variety.

T. misceella Ch.—Dyar's List, p. 572, No. 6515.—“Head and palpi pale yellowish; antennæ pale fuscous; thorax and primaries fuscous and saffron yellow, intermixed in almost equal quantities, the fuscous scales being sometimes aggregated into small spots, one of which is about the end of the disc and a larger one is near the base. Alar ex. $\frac{3}{4}$ inch. Kentucky.”

The above is the author's short description of this species. The type is in Cambridge, in poor condition and not spread; there is a rather well-marked dash on the fold just before the middle, which is not mentioned, unless, indeed, this should represent the “larger spot

near the base" in the author's description, of which I could not see any evidence. The head and thorax in this specimen is sordid ochreous, the latter darker anteriorly. It is about the size of a small *pellionella*.

Occidentella Group.

The few species comprising this group are moths of more than average size; head yellowish or white, color of forewings brown, with more or less white; stigmata distinct. Hindwings as wide as the forewings, costa not retuse.

They are distinguished as follows:

With dark purple line from middle of costa to end of disk. . . . **behrensella**.
Without such a line.

Second discal spot transverse; plical spot before the middle.

occidentella.

Second discal spot round, plical spot not before the middle. **tuscanella**.

T. behrensella Ch.—Dyar's List, p. 570, No. 6494.—"Palpi yellowish; hairs of the face and vertex yellowish, mixed with some of a darker hue; antennæ fuscous, silvery tinged; primaries brownish, suffused with pale purple, and paler towards the dorsal margin, a reddish or purplish brown line extends along the costal margin to about the middle, when it leaves the margin, passing backwards to the end of the disc, becoming, also, wider; apical part of the wing pale purple, or purple-slate color, with white scales intermixed; cilia pale straw color; under surface and legs whitish, except the anterior surfaces of the first and second pairs of legs, which are brown, annulate with yellowish white at the joints. Al. ex. $\frac{3}{4}$ inch. Named for Mr. J. Behrens, of San Francisco, from whom I received it."

This is the author's description, to which I have nothing to add, as the insect is not known to me in nature. I place this species tentatively into the present group.

T. occidentella Ch.—Dyar's List, p. 573, No. 6532.—Palpi fuscous brown, outer half of terminal joint of labials whitish. Head creamy-white. Antennæ deep fuscous, basal joint white. Thorax dark brown; anterior part, except patagia, white. Forewings moderately wide, obtusely pointed, ground color creamy-white, overlaid with dark brown or almost black, the latter most dense in basal two-fifths and in the apical part of the wing, also more or less along the margins; on the apical third of costa are four or five short oblique lines which extend into the cilia; a large, somewhat transverse spot at end of cell, another well marked and nearly rectangular; on the fold before the middle extending as a streak towards the base, immediately exterior to these spots, the white ground color appears as a more or less conspicuous white spot or dash. Cilia fuscous, traversed by several pale lines in costal and dorsal portion. Hindwings fully as wide as forewing, obtusely rounded at apex, gray, dusted with fuscous and with an ochreous tinge; cilia gray. Abdomen grayish fuscous above, underside of

body and hind legs grayish ochreous; anterior and middle legs fuscous, tarsal joints pale at apex.

Exp. 18.0-19.5 mm.; 0.72-0.78 inch.

Hab.—California (Pasadena).

A number of specimens in my collection. Erroneously referred to *Trichophaga* in Dr. Dyar's List.

T. tuscanella n. sp.—Palpi whitish, labials rather thick, dusted with fuscous, terminal joint rather short, obtuse. Head creamy-white, slightly yellowish in front and a few tufts of brown upon the face. Antennæ fuscous brown, paler beneath, basal joint whitish. Thorax brown, enclosing a large oval patch of white anteriorly. Wings a little narrower than in *occidentella*. Forewings whitish, overlaid with brown scales; which are most dense in the dorsal and apical portions of the wing, less along the margins and adjacent parts, the space surrounding the second discal spot being the most sparsely dusted portion of the wing; plical spot distinct, about middle of wing length, first discal obsolete, second distinct, rounded. Cilia whitish ochreous in basal half, outer half brownish, separated by a dark dividing line, another less well-marked line in the outer half; the whole sparsely speckled with brown scales; underside pale fuscous. Hindwings as wide as forewings, rather pointed, pale silvery gray, margins fuscous and apical part rather densely dusted with darker scales; cilia pale yellowish; underside deep ochreous towards the dorsal margin. Abdomen ochreous fuscous, paler on the sides above. Legs pale ochreous, anterior two pairs tinged with fuscous, tarsi annulate with dark.

Exp. 17.0 mm.; 0.68 inch.

Hab.—Arizona (Tuscan).

Very closely related to *occidentella*, from which it differs by its narrower wings, the dusting rather brown than blackish, the plical spot farther from the base and the cilia pale at base.

Croceocapitella Group.

The species which I have included in this group have forewings deep fuscous or purplish brown; stigmata either entirely obsolete, or at least the first discal absent. Hindwings as wide or wider than the forewings, rarely (*xanthostictella*) narrower; costa not or very feebly retuse toward the apex. Only in one species (*mandarinella*) is the dorsal part of forewing yellow.

Thus defined, the species may be tabulated as follows:

Forewings unicolous; no pale spots.

Thorax unicolorous; dark brown **croceoverticella**.

Thorax not unicolorous.

With entire ochreous stripe..... **thoracestrigella**.

With ochreous spot anteriorly..... **vicinella**.

Forewings with pale spots or lines.

Without marginal spots.

Head whitish or russet yellow.

Spot at end of cell.

Head russet-yellow **unomaculella**.

Head whitish.....**niveocapitella**.

Without spot at end of cell.....**leucocapitella**.

Head dark fuscous**seminolella**.

With marginal spots.

No transverse lines or fascia.

Spots numerous**ophrionella**.

Yellow spot at anal angle.....**xanthostictella**.

With entire transverse fascia.....**imitatorella**.

Dorsal part of forewings yellow.....**mandarinella**.

T. croceoverticella Ch.—Dyar's List, p. 571, No. 6500.—“Dark brown, in some lights strongly bronzed, head saffron colored; antennæ dark brown; palpi a little paler than the head; under surface silvery whitish, faintly tinged with golden yellow; wings rather wide; cilia grayish, with two brown hinder marginal lines, one at their base, the other beyond their middle. Al. ex. a little over $\frac{1}{4}$ inch. Kentucky.”

I have but little to add to Chambers' description; there is a dark brown spot on the second and third joints of the labial palpi externally; antennæ annulate with pale. The dark bronzed brown uniform color of the forewings is intermixed with paler filiform scales. Hindwings wider than the forewings, purplish brown; cilia brown. Some specimens have the antennæ thickened with verticillate scales. Not easily confounded with any other species known to me. The type is in Cambridge.

Exp. 10.0–12.0 mm.; 0.4–0.48 inch.

Hab.—Kentucky, Kansas (Onaga); Maryland (Plummers Isl.); Ohio (Cincinnati).

T. thoracestrigella Ch.—Dyar's List, p. 572, No. 6523.

Mr. Chambers describes this species as follows:

“Much like the above (*croceoverticella*), but larger, having an al. ex. of more than $\frac{3}{4}$ of an inch. The forewings are simply dark brown, without bronzy reflection; and so are the cilia, which show no hinder marginal line; the hindwings also are brown, though paler than the forewings. The head is more reddish saffron, and a line of that color extends from the head to the tip of the thorax. Otherwise it resembles the species above described (*croceoverticella*).”

Not known to me in nature.

T. vicinella n. sp.—Labial palpi dark brown. Head, basal joint of antennæ and large oval spot on anterior part of thorax saffron-yellow, remainder of thorax and antennæ dark, coffee-brown, latter rather thick, joints closely set, without scales. Forewings rather elongate, uniformly dark coffee-brown, with some lustre; on the fold the dark is intensified and along it is a row of large whitish scales; some similar scales on the disc beyond the middle. Cilia brown. Hindwings fully as wide as the forewings, costa not retuse, pale fuscous, with some brassy lustre; underside of wings fuscous, hindwings paler. Abdomen above, body beneath and legs sordid ochreous, dusted with fuscous; anterior and middle legs dark fuscous, tarsal joints paler at the apex.

Exp. 20.0 mm.; 0.8 inch.

Hab.—Florida (Gotha).

A male specimen, not in very good condition, in my collection. Its nearest ally is *thoracestrigella*, but larger. In size it comes close to *leucocapitella*, but the head is distinctly yellow, lacks the plical spot of that species and has a large yellow spot on the thorax.

T. nuomaculella Ch.—Dyar's List, p. 573, No. 6526.—"Thorax and forewings dark brown, with a yellowish spot at the end of the cell; antennæ and outer surface of the labial palpi brown, inner surface and apex yellowish; head and maxillary palpi yellowish, under surface and legs yellowish, marked with fuscous. Al. ex. $\frac{3}{8}$ inch. Texas."

The type, an unspread specimen, but otherwise in good condition, is in Cambridge; beside the spot at end of cell, there is a semi circular spot, at two thirds of the fold and seven or eight spots at the base of the cilia. The palpi rather thick, third joint obtuse. In a specimen in my collection the plical spot is obsolete on one wing.

T. niveocapitella Ch.—Dyar's List, p. 572, No. 6516.—"Dark brown: there is a small pale ochreous or whitish spot just within the dorsal margin, placed about midway of the wing length and margined before by black scales; head very pale yellowish white; maxillary palpi fuscous, labial palpi dark brown, the third joint tipped with pale yellowish or white. Al. ex. 7 lines. California."

I have not seen this species; it appears to be very closely allied to *leucocapitella* and *vicinella*, but smaller. More extensive material may prove them to be mere varieties of the species under consideration.

T. leucocapitella Busck.—Proc. U. S. Nat. Mus., Vol. XXVII, 776.

This species, of which I have been permitted to see the type, is very closely related to *niveocapitella* Ch., from which, to judge by the description of the latter alone, it appears to differ by its larger size (22.5 mm.); and the absence of the pale spot at end of cell; the palpi are wanting. In both species the spot on the fold is midway

of wing length and margined towards the base with deep blackish scales.

Hab.—Washington (Pullman).

T. semiolella Beut.—Dyar's List, p. 572, No., 6521.—“Head, thorax and palpi deep fuscous. Primaries fuscous, covered with deep fuscous scales; without any markings except an indistinct blackish discal spot with a pale margin. Legs, body, secondaries and wings beneath fuscous.”

Exp. 17.0 mm.

Hab.—Central Florida.

The type of this species, a female, is in the U. S. Mus. collection. I have not seen it.

T. ophrionella n. sp.—Pl. III, fig. 6.—Palpi creamy yellow, labials brown externally, except apical half of third joint, dusted with fuscous within. Head ochreous yellow. Antennæ of moderate thickness, grayish fuscous above, paler beneath, basal joint yellowish white. Thorax purplish brown. Patagia edged with white externally. Forewings broad, costa curved gradually from the base and equally so towards the apex; purple-brown and marked with rather large, whitish spots; before the middle are two costal spots, of which the first is less distinct and more oblique, and about midway between the base and the second spot, the latter nearly perpendicular to the margin and more distinct. These two spots extend to about one-third the wing breadth, from the middle to apex are five costal spots, distinct but narrower than the preceding, the first two of these point obliquely backward, the other three obliquely forward, strictly speaking these spots, especially the outer ones, are confined to the costal cilia; a spot on the dorsal margin at beginning of cilia, another at one-fourth; within the dorsal margin are two spots, one of these between the preceding two spots, just touching the margin, the other nearer the base; another large spot very near the base, a little nearer to the costa. Cilia dark brown, with five white lines in costal portion—mentioned above—and two in the dorsal part. Underside fuscous, faintly showing markings of upper side. Hindwings fuscous, with purple lustre; cilia concolorous. Abdomen fuscous above; underside of body and legs grayish ochreous, dusted with fuscous.

Exp. 14.0 mm.; 0.56 inch.

Hab.—New York (Ithaca).

A single ♂ specimen in my collection. The rather wide forewings and general habitus give the insect the appearance of an *Incurvaria*, however, the antennæ of the male are simple.

T. xanthostictella n. sp.—Palpi pale yellowish, labials spotted externally with fuscous. Head saffron-yellow. Antennæ rather stout (♂), with verticillate scales, grayish fuscous above, paler beneath. Thorax pale yellow, with lustre, patagia dark bronzy brown. Forewings rather wide, uniformly brown, somewhat darker in the basal portion; a bright sulphur-yellow spot at the anal angle; cilia grayish fuscous. Hindwings a trifle narrower than the forewings, costa not retuse, grayish fuscous, with some lustre. Cilia concolorous. Abdomen

above, fuscous brown; sexual armature yellowish. Underside of body and legs yellowish, tinged, and tibiae and tarsi more or less spotted, with fuscous brown.

Exp. 10.0 mm.; 0.4 inch.

Hab.—Georgia (Forsyth).

A male specimen in my collection. Easily recognized by its general brown color and the yellow spot at the anal angle. The claspers are large, spoon shaped, uncus simply curved.

T. imitatorella Ch.—Dyar's List, p. 572, No. 6508.

Mr. Chambers does not give a description of this species, except by reference to his *Tinea* (*Endarcia*) *cemitariella*, saying that it agrees with the description given of that species, to which he adds, that the palpi and legs are rather silvery gray, or gray, with blackish markings on the legs; also, that the antennae in *cemitariella* are robust and yellow, banded above with fuscous lines, while those of *imitatorella* are quite slender and shining black. The larval case of *cemitariella* is much depressed, narrowed before each end, that is, scalloped on each side before each end, the under side truncated at each end and the upper projecting like the bowl of a spoon beyond it; the case of *imitatorella* is scarcely at all depressed, it is not scalloped as in *cemitariella*, the upper side does not project beyond the lower, and the anterior end is narrower than the posterior one.

T. mandarinella n. sp.—Pl. III, fig. 1.—Palpi pale yellowish white, labials tinged with fuscous beneath. Head russet-yellow. Antennae slender, fuscous brown above, grayish beneath. Thorax grayish fuscous, patagia deep brown. Abdomen fuscous above, paler at the base. Forewings elongate, deep maroon-brown, costa dark brown; dorsal part of wing yellow for three-fifths its length, sinuous along its costal border and sprinkled with dark brown scales; about the middle of wing length the dark portion projects as a conspicuous spot into the yellow part; a yellow spot on the costa before the apex; costal cilia dark brown, with a yellow line corresponding with the costal spot; apical and dorsal cilia divided into three tiers, the basal part concolorous with wing, second tier paler, and the third pale yellow as is likewise the beginning of the dorsal cilia. Hindwings ovate-lanceolate, costa slightly retuse in outer half, dark fuscous with feeble brassy lustre; cilia $1\frac{1}{2}$, concolorous. Underside of fore- and hindwings fuscous brown. Underside of thorax and legs yellowish, dusted with fuscous; tarsal joints spotted with fuscous.

Exp. 7.5 mm.; 0.3 inch.

Hab.—Ohio (Cincinnati).

A single male specimen of this very interesting addition to our Tineid fauna was sent me for study by Mr. A. Busck. A very dis-

tinnet species not closely allied to any of our known *Tineæ*. In general appearance it resembles, perhaps most, *Isocorypha mediostriatella*; in a minor degree *Tinea bimaculella*, and to judge from the description, seems to have a suspicious close resemblance to the European *Relicinella* H. S., though much smaller.

Oregonella Group.

A small number of species are included in this group, which is characterized by the wing markings, consisting predominantly of longitudinal streaks or lines. The forewings are elongate. Hindwings not as wide as the former, with the costa distinctly emarginate beyond the middle.

The species are distinguished as follows :

Forewings white, markings dark; veins 4 and 5 of hindwing free.

Costal spot not extending into disc **roburella.**

Two longitudinal streaks through the disc **oregonella.**

Numerous longitudinal lines **multistriatella.**

Forewings dark brown; veins 4 and 5 of hindwings stemmed **Rileyi.**

T. roburella n. sp.—Pl. II, fig. 3.—Palpi yellowish white, labials dark brown externally, except at the apex, second joint roughened beneath, with dark brown scales. Head sordid white, with a fuscous spot on the vertex. Antennæ robust (♂), somewhat flattened, sordid white and dotted with fuscous above. Thorax sordid white, speckled with, and patagia anteriorly, fuscous. Forewings moderately elongate, whitish, suffused with pale brown from before the middle, with dark, seal-brown marginal spots and several longitudinal streaks, a spot at base of costa, a small oblique one at one-fourth, a large quadrate spot about middle of costa, extending into the disc and sending a prolongation, both towards the base and towards the apex, the latter extends as a streak, becoming wider outwardly and connects with the costal spot immediately before the apex; beyond the large median spot are four spots, alternately large and small, and immediately before the apex two connected spots, a spot at middle of dorsal margin, the latter along base of cilia is dark brown, more or less interrupted; an undulating streak, which commences below middle of fold and extends towards the apex, which, however, it does not attain, basal part of wing and the space below the undulating streak is faintly irrorated with pale brown. Cilia whitish, with rather wide dividing line about their middle, speckled and barred with brown correspondingly to marginal markings. Hindwings under 1, costa distinctly emarginate, grayish fuscous; cilia gray, with a sprinkling of fuscous scales. Underside of wings brown. Abdomen above fuscous; body beneath and legs ochreous white; tibiæ externally and tarsal joints above, except at apex, fuscous.

Exp. 13.0 mm.; 0.42 inch.

Hab.—New Jersey (Essex County). A male specimen in my collection, kindly given me by Mr. W. D. Kearfott.

T. oregonella Busek.—Dyar's List, p. 572, No. 6518.

Bred in large numbers from a fungus by Mr. A. Busck. Readily recognized by its rusty white wings, with several, wide, dark brown longitudinal streaks, of which one on the fold, reaching from base to apical third of wing, and one in the middle of the wing, reaching from basal third to apex are the most conspicuous; a less conspicuous streak along basal third of both margins; some irregular spots along costal margin, and a row of connected spots along base of dorsal cilia. Cilia whitish, with brown dividing line about their middle and some scattered brown scales. Hindwings grayish fuscous; narrower than the forewings, costa emarginate beyond middle; cilia gray, yellowish at base.

Exp. 15.0–17.0 mm.; 0.6–0.8 inch.

Hab.—Oregon.

T. multistriatella n. sp.—Pl. II, fig. 5.—Palpi yellowish white, labials externally, except at apex, dark brown. Hair of face whitish, rather appressed, on the vertex sordid white, intermixed with brown in the middle. Antennae moderately robust, scarcely one-half the wing length, brownish above, paler beneath, basal joint whitish. Thorax white and fuscous intermixed. Forewings elongate, pointed, white, with dark brown marginal spots and numerous longitudinal communicating lines, without lustre; a large elongate spot about middle of costa, before it several smaller spots, and beyond it about five spots, decreasing in size; a row of dots along base of dorsal cilia, forming an almost uninterrupted line, a distinct spot at beginning of dorsal cilia; the space between the longitudinal lines is sparsely sprinkled with brown scales. Cilia ochreous brown, with an indistinct dividing line about the middle, the basal half being more grayish, the outer half more ochreous, with dark bars, corresponding to the marginal spots. Hindwings under 1, costa emarginate in apical two-fifths, pointed, pale grayish white, speckled with fuscous scales; cilia concolorous, pale ochreous at base. Abdomen ochreous fuscous above, reddish ochreous brown beneath. Legs ochreous white, dusted with fuscous, especially anterior and middle pair; tarsal joints paler at apex.

Exp. 16.0–17.5 mm.; 0.64–0.7 inch.

Hab.—Canada (Toronto); Maryland (Plummers Island).

Specimens in my collection were bred from a fungus, growing on beech stumps. A specimen from the second locality was taken by Mr. A. Busck in May, 1903. A specimen in poor condition, collected by Chambers, labeled "*Tinea* sp.," but without locality, is in the Cambridge Museum. Very closely related to *oregonella*.

T. rileyi n. sp.—Maxillary palpi grayish white; labial palpi dark fuscous externally, sordid white, dusted with fuscous within. Head and thorax dark brown, patagia speckled with white. Antennae pale ochreous fuscous. Fore-

wings elongate, a deep rich golden brown, traversed by white longitudinal lines; extreme costa and dorsal margin pale, several lines, more or less communicating, in costal part of wing, two other lines arise from middle of base, run parallel through the disc to about the posterior angle of cell, another line begins beyond middle of dorsal margin, is curved, touches the dorsal margin some distance before the apex and ends immediately below it. Periapical cilia dark brown, traversed by four, sharply defined white lines, remainder white, with some scattered, brown scales. Hindwings gray, cilia concolorous; underside of wings pale fuscous gray. Abdomen above, body beneath and legs ochreous, more or less tinged with fuscous; tarsal joints pale at apex.

Exp. 10.0-14.5 mm.; 0.4-9.58 inch.

Hab.—District of Columbia; Florida (Hastings); Pennsylvania (Hazleton).

This species was bred by the late Dr. Riley, from fungus; and after whom it was named by Lord Walsingham, but never described. I gladly retain the name by which it is known in our collections. It has veins 4 and 5 of hindwing stalked.

Defectella Group.

A number of species belong here. Color of forewings white, rarely ochreous brown (*eloacella*), with dark brown markings. Hindwings narrower than the forewings; outer half or two fifths of costa distinctly retuse. The wings are generally elongate, pointed; more rarely moderately wide, and become towards the end of the series, especially the hindwings, almost lanceolate. The characters used in the synoptic table of species may not always be definite enough to convey to the student a concise concept, but it is hoped that these, with the descriptions and illustrations, will enable him to determine his material with reasonable certainty.

The species are distinguished as follows:

Large costal spot before or about the middle of forewing, extending into the disc.

A dorsal spot before the middle, which forms with the costal spot a more or less complete fascia.

Dorsal spot commences on the margin.

Fascia wide, not angulated externally, head ochreous.. **molybdanella**.

Fascia angulated externally, head white.

Angle of fascia extends towards end of cell **geniculatella**.

Angle of fascia not extended.

Dorsal spot very conspicuous, widest on the margin; heavy streak on basal fourth of costa **arcella**.

Dorsal spot inconspicuous, base of costa simply spotted.

Forewings with lustre, markings dark brown; without spot at end of cell **auripulvella**.

Forewings dull; markings pale brown, inconspicuous; spot at end of cell **acapnopennella**.

Dorsal spot commences within the margin.

Oblique line in apical part of wing **defectella**.

Without such a line.

Apex of forewings black **apicisignatella**.

Apex of forewings not black **angulifasciella**.

Without such dorsal spot.

With two oblique costal streaks.

Spots in outer half of wing large, confluent **marmorella**.

Spots not confluent.

Dorsal margin with two well-marked spots **fuscomaculella**.

Dorsal margin with numerous dots **granella**.

With one costal streak.

Forewings yellowish brown; head yellow **eloacella**.

Head not yellow.

A curved line in outer half of wing **interstitiella**.

Without such a line **fulvisuffusella**.

Costal spots not extending into disc.

Two longitudinal dashes in apical part of wing **maculabella**.

Without such dashes.

Marginal spots very conspicuous **marginimaculella**.

Marginal spots inconspicuous.

Speckled with dark brown spots or scales, scales aggregated into several discal spots **fuscopulvella**.

Forming two, more or less complete, entire fascias **nigroatomella**.

T. molybdanella n. sp.—Pl. III, fig. 7.—Maxillary palpi and labials within sordid ochreous, the latter externally, except at the apex, dark brown, terminal joint small, scarcely one-half the length of the second. Head grayish ochreous, intermixed with fuscous, before the insertion of the antennæ; the latter slender (♀), fuscous. Thorax grayish ochreous, speckled with fuscous and an irregular, ill-defined stripe each side of dark brown scales. Forewings moderately wide, a leaden, grayish white, lustrous, markings blackish brown; costa irregularly dark fuscous almost to the median fascia, the latter begins about middle of costa, rather wide and extends somewhat obliquely backwards until it adjoins a large quadrate spot at one-third of the dorsal margin, forming thus a wide, entire fascia, scarcely at all angulated externally, a curved line, of more or less connected spots beginning at the median fascia and about one-third from the costa and reaching a large double spot on the costa before the apex, on the costa between the last mentioned spot and the median band are two large triangular spots, and alternating with them three small round dots; the marginal spots in the apical part of the wing are large and coalesce with the dark brown color of the disc; the entire dorsal margin is irregularly spotted; a dash in basal part of fold. Cilia sordid ashen-gray, irregularly dotted and barred with dark fuscous. Hindwings under 1, deep leaden gray, dusted with fuscous. Abdomen above dark fuscous; underside of body and legs ochreous, anterior and middle legs externally and tarsal joints above, except at apex, fuscous.

Exp. 14.0–17.0 mm.; 0.56–0.68 inch.

Hub.—California (Pasadena).

Two specimens in my collection. Its nearest allies are *defectella* and *geniculatella*, from both of which the present species differs by its leaden-gray color and the median band not angulated externally.

T. geniculatella n. sp.—Palpi sordid white, labials above and beneath dark brown, dusted with fuscous, terminal joint rather short, basal half dark fuscous. Head sordid white. Antennæ pale fuscous. Thorax grayish white, patagia fuscous in front. Forewings moderately wide, creamy white, markings blackish brown; a heavy costal streak on basal fourth; a heavy spot at middle of costa, extending less than one-half the wing breadth, where it is joined by a curved line beginning at two-fifths of dorsal margin and forming an acutely angulated fascia, from its angle extends a streak towards end of disc, beyond the fascia are two small costal dots, and just before the apex two large spots, more or less coalescent, and opposite to these a spot on the dorsal margin; a few smaller dots along base of dorsal cilia and a distinct spot at end of disc; some scattered brown scales, especially in apical part of wing. Cilia sordid whitish, with scattered fuscous scales. Hind wings under 1, grayish fuscous, cilia dark fuscous at their base, becoming ochreous gray outwardly. Legs ochreous fuscous. Legs grayish ochreous, dusted and spotted with fuscous.

Exp. 15.0–17.0 mm.; 0.6–0.64 inch.

Hab.—California (Pasadena, Occidental, Kaweah).

Three specimens in my collection from the three mentioned localities. A specimen sent to Lord Walsingham for identification was returned as *T. arcella*, from which, however, it differs by the dorsal spot further removed from the base, a spot at end of cell and a distinct dorsal spot before the apex.

T. arcella Fab.—Pl. II, fig. 6.—Dyar's List, p. 573, No. 6531.—Palpi ochreous white, labials fuscous externally, except at the apex. Head white. Antennæ ochreous white. Thorax white, edged anteriorly with fuscous. Forewings white, somewhat suffused with pale, cream-yellow; markings dark brown, a heavy streak on basal fourth of costa, a large subquadrate costal spot just beyond the middle somewhat oblique outwardly and forming with the dorsal spot a sharply angulated fascia, more or less entire, the dorsal spot almost triangular, just before the middle slightly curved, with its widest part resting on the margin, the apex pointing obliquely outwardly; a costal spot, sometimes wanting, just before and including the apex, some irregular dots along dorsal margin; the white surface sometimes sprinkled with pale brown scales. Cilia white, fuscous correspondingly with marginal spots; underside of wing pale fuscous. Hindwings under 1, grayish, dusted with fuscous towards the apex. Abdomen above ochreous fuscous; underside of body and legs pale ochreous white, tinged with fuscous.

Exp. 11.0–14.0 mm.; 0.44–0.56 inch.

Hab.—Europe, Pennsylvania (Hazleton); New York (Ithaca); District of Columbia, Ohio (Cincinnati); Maryland (Plummers Isl.).

A specimen in my collection has the wings infusate, the brown scales being arranged in irregular transverse lines.

T. auropulvella Ch.—Dyar's List, p. 570. No. 6491, syn.).

Mr. Chambers describes the species as follows :

"Snowy white, outer surface of the second joint of the labial palpi brown ; antennæ yellowish white ; primaries very sparsely dusted with pale reddish or brownish golden, except in the apical portion, where the dusting is rather dense, is also thicker near the base of the dorsal margin. A dark brown spot on the costa at the extreme base, another large one on the costa near the base ; a smaller costal one just before the middle ; a large one just behind the middle reaching to the fold, another small one before the cilia, and five or six small ones extending around the apex at the beginning of the cilia ; in some lights these spots are distinctly golden brown. Al. ex. seven-sixteenths. Kentucky."

This species has been referred to in our lists as a synonym of *acapunopennella*, from which it is quite distinct ; among Chambers' "types" in Cambridge are three specimens of *acapunopennella*, thus showing that the author did not notice the difference or failed to recognize Clemens' species, which is excusable. Some of Chambers' statements in the description are rather misleading, the large spot just beyond the middle, is quadrate and rarely extends beyond one-half the wing breadth ; an inconspicuous spot on the dorsal margin at one fourth, and from which extends a line, more or less interrupted, to the large costal spot ; another dorsal spot at beginning of dorsal cilia ; the dots along base of cilia are frequently forming a continuous line, here and there interrupted ; cilia white, tinted with reddish golden, with a distinct dividing line beyond their middle and a less distinct dark edge, barred with darker lines, preceding from the costal spots. A dark spot on the patagia in front. Hindwings under 1, pale grayish fuscous. Legs yellowish white ; tarsi spotted with fuscous. Exp. 11.5-16.-0 mm. ; 0.48-0.64 inch.

Hab.—Kentucky, New York, New Jersey, Pennsylvania (Hazleton). *Auropulvella* differs essentially from *acapunopennella* by its narrower and more pointed wings, its more pronounced markings and golden lustre and lacks the spot at end of cell.

T. acapunopennella Clem.—Dyar's List, p. 570, No. 6513.—Head white, or ochreous white, intermixed with fuscous. Palpi yellowish, labials dusted externally with brownish scales. Antennæ pale ochreous, finely annulate with brown. Thorax sordid white, speckled with brown scales, patagia brown in front. Forewings rather broad, a dull white, sprinkled with pale brown scales in varying density and forming at times irregular transverse lines, or else giving a more suffused appearance ; the markings are brown ; basal part of extreme costa, an oblique spot near the base reaching to the fold, a somewhat smaller spot at one-fourth, beyond the middle is a large subquadrate spot and opposite to it at the beginning of dorsal cilia, a smaller one, a regularly curved fascia, with the con-

vexity outward, extends from the costal spot, where it is widest to the above mentioned dorsal spot, where it ends in a point; a little beyond the postmedian costal spot is another quite distinct, and opposite to it, though a little nearer the base, a similar dorsal spot; a row of small dots along base of cilia; a well-marked dash in the middle of the fold, and obliquely outward and above this another longitudinal dash, which ends in the costal end of the curved fascia; a line, more or less distinct, connects the upper dash with the plical, and the latter with the dorsal margin, giving it the appearance of a zig-zag line; a spot at end of disc, beyond which is an aggregation of brown scales and some smaller marginal dots. Cilia whitish, with darker lines corresponding to the marginal spots. Hindwings a little narrower than the forewings, obtusely pointed, grayish fuscous, cilia gray. Abdomen above ochreous fuscous; underside of body and legs ochreous, tinted with fuscous.

Exp. 11.5-14.0 mm.; 0.46-0.56 inch.

Hub.—Pennsylvania; District of Columbia; Maryland (Plummers Island; Louisiana (Vowells Mill).

The description of this species by Dr. Clemens is defective; the type, as stated by the author, being "slightly worn." As, however, the latter is still extant in the Academy of Natural Sciences, Philadelphia, and has been carefully compared with a perfect specimen in my collection—the identification is fully established. The markings appear to vary in extent. A specimen collected by Mr. A. Busck on Plummers Island, and sent me for study, differs markedly by its pure white forewings and the more intense dark markings, the thorax more distinctly speckled with fuscous, and the second joint of the labial palpi is ciliated with blackish hairs. *Tinea minutipulnella* Ch., the type of which I have examined in Cambridge, is a worn specimen of the species under consideration.

T. defectella Zell.—Dyar's List, p. 571, No. 6501.—Palpi yellowish white; labials finely dusted with pale brown. Thorax white, a dark spot each side anteriorly. Forewings elongate, pointed, white, with blackish brown markings and a feeble satiny lustre; marking as follows: extreme base of costa, oblique spot near the base reaching to and becoming wider in the fold, beyond this oblique spot are several smaller costal spots, a large spot on middle of costa, extending obliquely backward to above the fold, where it is joined at an acute angle by an oblique dorsal streak beginning within the margin and at one-third the wing length; beyond the large median spot are two small costal spots, in the apical part of the wing is an oblique stripe, parallel to the outer margin and scalloped within, a row of dots along base of dorsal cilia, a spot on the dorsal margin opposite to the oblique costal spot near the base, another spot near anal angle. Cilia white, with dark median line, costal cilia with three or four fuscous bars, the last of which forms an apical spot, three or four similar bars in dorsal cilia. Hindwings under 1, pointed, gray; cilia concolorous. Legs yellowish white, tinged with fuscous.

Exp. 12.0-15.0 mm.; 0.48-0.6 inch.

Hub.—California (San Francisco, Kaweah); Arizona (St. Rita Mountains). A specimen sent me by Mr. A. Busck, from the last named locality, was bred from a *Polyporus*. In this specimen the white of the forewings is considerably darkened by fuscous dusting. The apical spot of the forewing, mentioned by Zeller, is in the cilia. The figure of forewing given by the author is relatively too wide. In some specimens the oblique dorsal streak is interrupted before reaching the costal spot, and the latter is, in some specimens, connected with the oblique apical stripe by a row of small dots. This species is closely related to *geniculatella*.

T. apicisignatella n. sp.—Palpi yellowish white, labials rather slender, terminal joint more than half the length of the second, dusted with fuscous externally. Head creamy white. Antennæ slender, grayish fuscous, paler beneath. Forewings elongate pointed, dusted with pale reddish golden, or pale brown scales, markings dark brown, strongly marked; a triangular costal spot at base, reaching the fold, another oblique spot at one-fourth; a large quadrate spot at middle of costa, extending about one-half the wingbreadth, beyond this spot are two smaller, though quite distinct spots, the first of which is more or less distinctly connected with the median spot, in such a way as to leave a white costal spot between them, just before the apex is a large triangular spot and opposite to it a smaller one on the dorsal margin, a spot at the extreme apex, a small dot, sometimes wanting, on lower angle of cell; an inconspicuous spot at one-third of and just within the dorsal margin and from which extends an irregularly oblique line to the lower anterior angle of the median costal spot, forming with the latter an angulated fascia; some irregular dots along the dorsal margin: the golden brown scales are more condensed in the apical part of wing and are almost entirely wanting on the subpleural part of the wing, cilia whitish with a fine, mesial dividing line and barred with dark brown in the costal portion, pale brown in the dorsal cilia, corresponding with the marginal and apical spots; the white line between the two marginal spots before the apex and the one at the apex is continued obliquely into the cilia and gives it thus a semi-circular appearance. Hindwings under 1, grayish dusted with fuscous, especially towards the apex, cilia paler. Underside of wings grayish fuscous. Abdomen above ochreous fuscous; underside of body and legs ochreous, tinged with fuscous; tarsal joints pale at apex.

Exp. 12.0-13.0 mm.; 0.48-0.52 inch.

Hub.—Pennsylvania (Hazleton); New Hampshire (Hampton).

A specimen received several years ago from the U. S. Nat. Mus., was labeled *Tinea cloacella* Haw., from which, however, it is quite distinct.

T. angulifasciella n. sp.—Pl. 11, fig. 7.—Maxillary and labial palpi within, whitish, the latter externally fuscous except apex of terminal joint. Head rather wide, sordid white. Antennæ rather thick, scarcely exceeding one-half the wing length, sordid ochreous. Thorax white, patagia dark fuscous

anteriorly. Forewings pure white, markings dark fuscous brown; a small dot at extreme base of costa, an oblique spot very near the base, reaching the fold where it is met by an oblique line extending from a small spot at the anal angle; just before the middle of the wing is a large, oblique spot which reaches the middle of the disc where it forms an acute angle with an equally pronounced spot which begins before the middle and within the dorsal margin; midway between the two last-mentioned costal spots is another costal spot and in the outer half of the wing three more, the last of which extends as a line along the base of the cilia; in the apical part of the wing and nearer the dorsal margin is a streak which becomes bifid before the apex, one branch going to the costal the other to the dorsal margin just before the apex, a number of dots, irregular in size along the dorsal margin, there are some irregular strigulations, especially in inner half of wing and some longitudinal lines in the outer, consisting of dark scales. Cilia white, traversed by three narrow costal and three wider dorsal bars, dark brown in color. Underside fuscous, showing markings of upper side. Hindwings under 1, silvery gray; cilia concolorous with ochreous tinge, underside of body silvery white, tinged with ochreous. Legs yellowish, anterior more or less fuscous externally, femur and tibia of middle pair with fuscous patch externally; tarsi spotted with fuscous.

Exp. 10.5 mm.; 0.42 inch.

Hab.—Maryland (Plummer's Island).

A female specimen, collected by Mr. A. Busck, in the U. S. Nat. Mus. A very distinct species. The labial palpi appear devoid of setæ. Veins 7 and 8 of forewing are stemmed.

T. marmorella Ch.—Dyar's List, p. 572, No. 6512.—“Head and palpi yellowish white; the second joint of the palpi brown on the outer surface. Thorax and forewings white, marbled with dark brown spots which are confluent, the basal fifths being white, except a brown spot on the base of the costa, one on the base of the dorsal margin, one on the fold and one between it and the dorsal margin; in the remainder of the wing the brown prevails; one of these brown spots is on the costa before the middle and reaches the fold and another about the middle of the costa does not quite reach the fold, and behind it along the apex is a row of distinct and separate dark brown spots, five of which are on the costal margin. There is a dark brown hinder marginal line extending through the middle of the dorsal cilia, and the cilia behind it are dusted with black. Al. ex. three-sixteenths inch.”

The above is Mr. Chambers' description, to which I have nothing to add. Four specimens in my collection, all in poor condition, I refer with some hesitation to this species. There is a specimen in the U. S. Mus. collection, which, however, I have not seen. Mr. Busck writes me that it is a broad winged species.

T. fascomaculella Ch.—Pl. III, fig. 2.—Dyar's List, p. 571, No. 6504.—“Gray, flecked and spotted with fuscous, which in some lights appears reddish or brownish golden; one of the spots is at the base of the costa, and opposite to it on the dorsal margin is a smaller one connected with it by scattered fuscous

scales; a fuscous streak from the costa to the fold, sometimes almost interrupted in the middle; an oblique fuscous streak about the apical third of the wing and a small dorsal spot opposite to it, and another small spot of the same hue near the apex; antennæ silvery gray; face and palpi whitish, outer side of the palpi dusted with fuscous. Al. ex. one-half inch. Kentucky."

Type in good condition in Cambridge. A broad winged species. The forewings are white but rather densely dusted with gray or grayish fuscous. "The fuscous streak from the costa to the fold" is at less than one-third and ends in a heavy streak on the fold, likewise ends the streak "about the apical third" in a longitudinal dash on the disk. In general appearance this species resembles somewhat *granella*, but is quite distinct. The antennæ distinctly over half the wing lengths.

T. granella L.—Dyar's List, p. 571, Nos. 6506 and 6499.—Palpi sordid white, labials externally except at apex, dark fuscous. Head whitish to pale yellow. Antennæ pale fuscous. Thorax fuscous, patagia tipped with whitish. Forewings rather moderately wide; ground color white, overlaid in varying thickness and density, with fuscous or dark brown scales, sometimes almost entirely concealing the ground color; markings dark brown; an oblique spot from base to fold, another at one-fourth, a heavy, oblique spot at middle of costa and reaching to middle of disc, four distinct costal spots beyond the middle becoming somewhat larger outwardly and edged with white on their posterior margin, a heavy streak in middle of fold, another streak in apical part of wing, and a less constant spot on the lower angle of cell; a row of irregular dots along the dorsal margin, those before the cilia often form transverse strigæ. Cilia white, with median dividing line, irregularly barred with fuscous, basal half darker. Hindwings slightly under 1, grayish fuscous, cilia concolorous. Under side of body and legs yellowish white, dusted and spotted with fuscous.

Exp. 8.0–14.0 mm.; 0.32–0.56 inch.

Hab.—Europe; Atlantic States; Ohio (Cincinnati); Iowa.

T. varietella Clem., the type of which I have seen and examined at the Academy of Natural Sciences, Philadelphia, is identical with this species, as already supposed by Mr. Stainton. *Tinea costistrigella* Ch., type in Cambridge is a small form of this species, with nearly white wings. Some years ago I bred a number of specimens from corn; the smaller forms generally have the least of the dark dusting.

T. cloacella Haw.—Dyar's List, p. 573, No. 6525.

Mr. Meyrick gives the following description of this species:

Head whitish ochreous. Forewings ochreous brown, more or less mixed with whitish and strigulated with dark fuscous; a spot on base of costa, another beyond it, a thick oblique spot from costa reaching middle of disc, an elongate

spot on fold before middle, and some small posterior costal and dorsal spots dark fuscous; a small round whitish posterior spot in disc. Hindwings fuscous.

Exp. 10-17 mm.

Mr. A. Busck very kindly sent me a European specimen of this species for study and which corresponds in all particulars with the description given by European authors of this species. I have not seen any species from within our faunal limits that could be recognized as *cloacella*, nor do I know of the existence of a well authenticated specimen anywhere; a specimen of *Tinea apicisignatella*, which I received as *cloacella*, is certainly not correct. I cannot help, therefore, but to consider the occurrence of *cloacella* in our fauna as very doubtful.

T. interstitiella n. sp.—Palpi ochreous white, labials rather long and slender, the second joint scarcely thickened towards the apex, roughened beneath with scales which, like the outer surface, are dark fuscous. Head and antennæ ochreous white, former intermixed with pale brown hairs. Thorax whitish, speckled, especially on the patagia, with pale brown. Forewings pure white, speckled and spotted with pale golden brown, so as almost to conceal the ground color of the outer three-fifths of the wing; markings, especially on the margins, dark brown; a large, somewhat oblique spot nearly at base of costa, beyond it, before the middle, are two or three, less distinct oblique streaks, beyond the middle is a broad, oblique spot which reaches the middle of the wing, beyond this spot and nearer the apex are a few more costal spots, nearly confluent, a small spot at beginning of dorsal cilia; a nearly uninterrupted line along base of dorsal cilia; a rather large rhomboidal spot below the middle of the fold; the pale golden brown scales, form irregular, undulating transverse lines in the basal two-fifths of the wing; in the outer half of the wing is a curved line about one-third of the width of the wing, from and running parallel with the dorsal margin, and which ends near the apex; apical part of wing rather densely overlaid with pale brown; cilia ochreous white, with brown scales. Hindwings under 1, grayish fuscous, cilia tinged with ochreous. Abdomen, underside of body and legs ochreous, dusted with fuscous; anterior and middle legs fuscous externally, tarsal joints paler at the apex.

Exp. 12.5 mm.; 0.5 inch.

Hab.—Georgia (Forsyth).

A single male specimen in my collection.

T. fulvisuffusella n. sp.—Head and palpi sordid white, faintly yellowish; labial palpi fuscous externally. Antennæ fuscous brown, about half the length of forewings; latter elongate, pointed, white, densely overlaid, except in basal third, with pale golden brown scales intermixed with dark brown, the latter especially in apical part of wing. A dark brown costal spot at base, a small spot at one-fourth; an oblique, triangular spot on middle of costa, reaching to middle of disc, about three costal spots before the apex; a small oblique dash in middle of fold. Costal cilia brown with two darker lines, dorsal cilia sordid white with

post mesial dividing line, and speckled with fuscous scales. Hindwings under 1, grayish fuscous, cilia concolorous. Abdomen fuscous. Underside of body ochreous, dusted with fuscous. Legs ochreous, spotted and tinged with fuscous. Exp. 11.5 mm.; 0.46 inch.

Hab.—New Hampshire (Hampton).

A specimen in my collection received from Mr. S. A. Shaw.

T. maculabellia Ch.—Dyar's List, p. 572, No. 6509.—“Snowy white; maxillary and labial palpi brown, except the inner surface of the labial pairs which is white; antennæ sordid yellowish white; thorax and primaries snowy white, with large, distinct dark brown spots, which in some lights are golden brown; one of these spots is on the anterior margin of the thorax and one on each side before the apex; primaries sparsely dusted with dark brown; a dark brown costal spot at the extreme base and a larger one near the base; another within the one last named on the fold; before the middle is an oblique irregular streak of the same hue reaching the fold and pointing towards a spot of the same hue just within the fold; a small spot of the same hue about the middle of the costa, behind which is an irregular costal streak of the same hue, which extends to the middle of the apical portion of the wing and widens into a large irregular spot; in the apical part of the wing is an indistinct longitudinal dorsal streak, nearly opposite to which, but a little behind it, is a larger and more distinct streak, which is also longitudinal. All of these spots are mixed with, or margined by reddish yellow scales; cilia white, dusted with dark brown. Al. ex. $\frac{3}{4}$ inch. Kentucky.”

The above is the description of this species as given by the author and which agrees fairly well with the type, in good condition, in Cambridge. The “irregular costal streak,” behind the middle and “which extends to the middle of the apical portion of the wing and widens into a large irregular spot” is scarcely correct, the latter is rather another broad, longitudinal streak between which and the costal spot the dusting is somewhat condensed. There is a row of dark spots along the base of the cilia. The forewings narrow; vein 2 and 3 close together from posterior angle of cell, 7 and 8 short stemmed. Hindwings under 1, lanceolate, gray; cilia concolorous. Underside of body and legs ochreous, slightly dusted with fuscous. In a specimen in my collection, which is smaller—14.0 mm.—the pale brown scales form a fine network between the larger spots. It was taken at Charleroi, Penna.

T. marginimaculella Ch.—Dyar's List, p. 572, No. 6510.—“Outer surface of palpi brown; inner surface and face white; vertex pale sulphur-yellow, or, perhaps, rather deep stramineous. Maxillary palpi grayish white. Antennæ silvery gray. Thorax and base of the costal portion of the wing brown, that color also being extended as a streak or series of spots along the fold to the dorsal margin and at the base of the dorsal ciliæ. There are four brown spots on

the costal margin, the last of which is placed at the beginning of the cilia, and a row of brown spots extends at the base of the cilia, entirely around the apex; there is a dark brown spot on the middle of the disc and another at the end of the disc. Cilia and hindwings silvery pale gray. Abdomen brown, the apex silvery. The first pair of legs is brown on the anterior surface, and the tarsi are annulate with white. Middle and hind legs silvery gray. Al. ex. $\frac{1}{2}$ inch. Kentucky."

The above is Mr. Chambers' description. A specimen is in the National Museum Collection. Mr. Busck informs me that it is a narrow winged species, hindwings under 1. *T. maculimarginella* Ch. does not appear to differ from this species.

T. fuscopulvella Ch.—Pl. II, fig. 1.—Dyar's List, p. 571, No. 6505.—"Snowy white; outer surface of the labial palpi dark brown; antennæ sordid yellowish white; thorax and primaries dusted irregularly with dark brown scales, the dusting sparse in some portions, but in others aggregated into small spots or patches, a small one of which is on the fold not far from the base; two other larger ones about the middle and others in the apical half of the wing; it also assumes the form of more or less distinct costal and dorsal streaks. Al. ex. three-sixteenths inch. Kentucky."

Not known to me in nature, and while, to judge from the description, the present species seems closely allied to *nigroatomella*, they could not, by any stretch of the imagination, be considered identical.

T. nigroatomella n. sp.—Pl. III, fig. 4.—Palpi, head and antennæ sordid yellowish white. Labial palpi rather long and slender, slightly dusted with fuscous externally. Antennæ faintly annulate with pale brown. Forewings moderately elongate, pointed, white, profusely speckled with dark brown scales, aggregated into ill-defined spots and two ill-defined fascias, the first of these is at one-third the wing length, slightly curved outward and equidistant from the base at both margins; the second fascia begins at the middle of the costal margin and extends obliquely to the beginning of the dorsal cilia; a small costal spot near the base and a dorsal spot behind the anal angle, three or four costal spots in apical part of wing, becoming larger outwardly; an ill-defined spot at end of cell; the apical part of wing more densely sprinkled. Cilia whitish, several dark bars in costal portion, corresponding with the marginal spots, dorsal cilia sprinkled with fuscous scales, which form an irregular, post median dividing line. Hindwings under 1, pale gray, cilia concolorous. Underside of body and legs yellowish white, feebly spotted or tinged with fuscous.

Exp. 8.5 mm.; 0.26 inch.

Hab.—New Jersey (Montclair).

A specimen in my collection, kindly given me by Mr. W. D. Kearfott. Very closely related to *fuscopulvella*.

HOMOSTINEA gen. n.

Type *curviliniella*.

Head very rough. Labial palpi cylindrical, depressed, second joint with apical setæ and roughened beneath with scales, third joint shorter than the second, pointed. Maxillary palpi plicate. Antennæ two-thirds the length of forewings, simple in both sexes, rather thick, inserted very close to the orbital margin. Forewings lanceolate, pointed; 12 veins, 5, 6 and 7 from a common stem, 1^b simple; an accessory cell. Hindwings narrower than the forewings, lanceolate, costal margin retuse in apical three-fifths. Cilia 1½; 7 veins, cell open between 3 and 4, 5 evanescent towards its origin, 6 wanting, vein 8 attains the margin at two-fifths. Hind tibiae roughened with coarse long hairs.

Distinctly *Tinea*-like in appearance, but wings rather narrow. One species.

H. curviliniella n. sp.—Pl. VI, fig. 8.—Head ochre-yellow. Labial and maxillary palpi grayish fuscous, with more or less dark brown. Antennæ fuscous. Thorax brown, ends of patagia paler. Forewings a sordid yellowish, dusted with fuscous, basal part of extreme costa dark fuscous; the fuscous dusting condensed along the costa, except its last fifth, extreme base and particularly anal angle blackish; a blackish spot in costal half of wing, before the middle, a curved black line, more or less interrupted, in the middle of the apical third, curved towards and somewhat nearer to the dorsal margin, some scattered scales, more pronounced along the dorsal margin; in the apical part of the wing are some scattered whitish scales. Cilia concolorous with two or three irregular darker lines; underside purplish fuscous. Hindwings grayish fuscous with a feeble brassy lustre towards the apex. Cilia grayish fuscous, paler at their base; underside pale fuscous. Legs yellowish gray, tibia dusted with fuscous, anterior dark fuscous; anterior tarsi dark brown, middle and posterior fuscous above; hairs of posterior tibia grayish. Abdomen entirely grayish fuscous.

Hab.—District of Columbia; Missouri (St. Louis); Kansas (Onaga); Louisiana (Vowells Mill).

The insect shows distribution over a considerable territory. It is possible that it may have been described before, but if so, no description of any North American *Tinea* tallies, nor does it correspond with any types in the Clemens' collection or those at Cambridge and in the National Museum.

TINEOLA H. S.

Dyar's List, p. 570, No. 6487.

Head entirely rough haired. Tongue and maxillary palpi rudimentary. Labial palpi porrect, somewhat drooping, second joint rough scaled beneath with spreading apical bristles, terminal shorter

than the second, coniform, obtusely pointed. Antennæ filiform, shorter than the forewings, almost imperceptibly pubescent in the male. Forewings elongate, 12 veins, all free; 1^b furcate; membrane clouded along costa from vein 9 to 11. Hindwings elongate-ovate, 8 veins, all free; an accessory cell. Cilia nearly 1. Hind tibiæ rough haired.

Represented in our fauna by our most destructive cloth moth.

T. biselliella Hummel.—Head ochreous ferrugineous. Antennæ ochreous fuscous. Thorax and forewings pale, yellow ochreous, without markings; costa slightly infusate towards the base. Hindwings grayish white with yellowish tinge. Abdomen and legs pale ochreous.

Exp. 9.0–16.0 mm.; 0.36–0.64 inch.

Hab.—United States.

Almost cosmopolitan. I have seen specimens from almost every State of North America.

TENAGA Clem.

Dyar's List, p. 574.

Head entirely rough haired, except a narrow space surrounding the small salient eyes. Tongue and maxillary palpi obsolete. Labial palpi ascending (drooping in the dead insect), cylindrical, second joint ciliated beneath with setæ in its apical half; terminal shorter than the second, pointed. Antennæ slender, simple, as long as the forewings. Forewings ovate-lanceolate, pointed; 11 veins, 10 absent, 5–6 and 7–8 stemmed, 1^b simple; cell narrow, with entire dividing vein; stem of 5–6 and 7–8 nearly obliterated towards their base. No accessory cell. Hindwings lanceolate, costa not retuse; 8 veins, 5–6 stemmed, cell open; anterior median very faint from base to near origin of vein 7, likewise the common stem of 5–6. Cilia over 1. Hind tibiæ rough haired.

Clemens' statement "the median (posterior median) is two branched, the superior one angulated," this statement I cannot verify, this branch (vein 2) is curved, but not angulated. Its nearest ally is *Tineola*. One species.

T. pomiliella Cl.—Dyar's List, p. 574, No. 6539.—Head dull ochreous, slightly mixed with brown. Labial palpi grayish, tinged with fuscous externally. Antennæ grayish fuscous, paler beneath. Thorax ochreous. Forewings yellowish ochreous, markings dark brown; a spot on base of costa, three irregular fascias, first within basal fourth, curved outward and more or less interrupted in the middle, second about middle, also somewhat interrupted; the third at

two-thirds, between these fascias are spots and scattered scales; two costal spots beyond the third fascia, extreme apex and some smaller spots along base of dorsal cilia. Cilia grayish ochreous. Hindwings pale, grayish fuscous; cilia gray. Abdomen grayish fuscous. Underside of body and legs pale yellowish gray; tarsi tinged with fuscous.

Exp. 10.0 mm.; 0.4 inch.

Hab.—Pennsylvania (Easton; Mt. Airey?) Hazleton.

Two specimens in my collection, received some years ago from Mr. P. Laurent, without locality labels. I took a specimen at light August 5, 1904.

HYBROMA Clem,

Dyar's List, p. 574.

Head entirely rough haired. Labial palpi cylindrical, spreading, second joint thickened and roughened with scales beneath and some terminal setæ; terminal joint shorter than second, compressed, scaly, pointed. Maxillary palpi plicate. Antennæ simple over half of anterior wing length, filiform, approximate upon the vertex, joints close set, with verticillate scales. Forewings ovate lanceolate, equally narrowed from both margins to apex; 12 veins, all free, a secondary cell, anterior median very faint from base to beginning of secondary cell, 1^b simple. Hindwings lanceolate, costa slightly retuse in its apical half, 8 veins, cell entirely open, anterior median proceeds as 7 to costa and from it arises the common stem of veins 5 and 6. Hind tibia rough haired. One species.

H. servulella Clem.—Dyar's List, p. 572, No. 6540.—Pl. V, fig. 3.—Head, thorax and forewings deep sulphur yellow; labial and maxillary palpi pale yellow, more or less speckled with dark brown scales. Antennæ dark brown. Thorax and forewings deep yellow; patagia dark brown in front, costa of forewings dark brown in its basal half, a large irregular costal spot on the apical third, somewhat oblique and reaching the dorsal margin, the latter in its basal half, dark brown; the dark portion of the dorsal margin is emarginate in its costal border, corresponding with the dorsal convexity of the large costal spot; cilia sulphur yellow, spotted with brown where the subapical spot reaches the dorsal cilia. Hindwings dark fuscous brown with a faint purple lustre. Cilia dark fuscous, paler at the apex. Abdomen fuscous above, anal part and underside yellowish. Legs pale yellow, tibiae fuscous externally, anterior tarsi entirely fuscous, middle and posterior, fuscous above.

Exp. 11.0-11.5 mm.; 0.44-0.46 inch.

Hab.—Pennsylvania (Hazleton, Manch Chunk); New Jersey.

This is *Tinea aureosuffusella* Ch., which I have examined in the Cambridge Museum collection. It is defective, but is sufficiently

well preserved to establish indentivity without doubt. Easily recognized by its coloration; the apical transverse spot is frequently interrupted in the middle. It seems to vary but little in size, the above measurements included 14–16 specimens in my collection. On trunk of trees August and September, also attracted to light. Mr. A. Busck—Proc. of the United States Nat. Mus., Vol. xxvii, p. 275—erroneously refers this species to *Monopis*.

— **TRYPTODEMA** gen. nov.

Type *sepulchrella*.

Head and face strongly rough haired. Labial palpi cylindrical, rather stout, second joint with apical setæ, terminal nearly as long as the second, acuminate. Maxillary palpi plicate, very small. Eyes globose, salient. Antennæ nearly as long as the forewing, rather thick, simple. Forewings elliptical lanceolate, 12 veins, all free; large secondary cell; 1^b simple. Hindwings not as wide as the forewings, lanceolate, costa not retuse, 8 veins, 5 and 6 stemmed, cell open between stem of 5 and 6. Cilia under 2.

The type of the genus is an obscure looking insect. Its nearest ally is *Hybroma* Clem., from which it differs principally by the much longer antennæ. In appearance no similarity exists. One species.

T. sepulchrella n. sp.—Pl. I, fig. 3.—Labial palpi dark fuscous externally, apex pale, grayish fuscous within. Maxillary palpi grayish fuscous. Head russet, somewhat brown before the insertion of the antennæ, the latter grayish fuscous, indistinctly annulate with pale. Thorax yellowish, spotted with fuscous, patagia more fuscous, especially in front. Abdomen grayish fuscous. Forewings dark brown, interspersed in varying extent with pale yellow scales, especially so along middle of wing, a large dark brown spot near the base and connected with the costa, a conspicuous spot in middle of disc and one at end of cell, between these two spots the yellowish scales form a pale streak, a spot in middle of fold, from which again extends a pale streak, more or less distinct, to dorsal margin at beginning of cilia; the latter ochreous fuscous, speckled with brown scales which form an indistinct dividing line about the middle of their length; underside fuscous, slightly bronzed. Hindwings grayish fuscous; cilia concolorous.

Exp. 8.0 mm.; 0.32 inch.

Hab.—Maryland (Plummer's Island).

Taken by Mr. Busck in month of August, who kindly has placed a specimen in my cabinet.

EUDARCIA Clem.

Dyar's List, p. 574.

Head, and especially the face, rough haired. Eyes small, hemispherical, freely visible from above, a free space immediately above. Labial palpi rather short with a few isolated setæ, third joint nearly as long as the second, pointed. Maxillary palpi plicate. Antennæ of moderate thickness, fully as long as the forewings, somewhat flattened, simple, joints close set with prominent angles, giving a finely denticulate appearance. Forewings lanceolate; 11 veins, 4 wanting, veins 7 and 8 and 9 and 10 stemmed, 11 short; 1[♂] furcate. Hindwings lanceolate, 7 veins, cell open between 3 and 5, 4 wanting, 5 and 6 stemmed. Cilia a little over 1. Hind tibiae rough haired.

The two species here recognized are rather small insects, brownish black, forewing with white fascias and marginal spots, and are distinguished as follows:

Apical cilia of forewing white.....**simulatricella**.
 Apical cilia not white.....**cæmitariella**.

E. simulatricella Clem.—Dyar's List, p. 574, No. 6538.—Head brownish ochreous. Palpi pale yellowish. Antennæ ochreous, annulated with dark brown. Forewings a rich dark chocolate brown with a faint purple lustre. A white fascia at one-third, a white costal spot about the middle, a similar dorsal spot opposite and a trifle beyond the middle, a curved costal spot before the apex. Cilia brown, white about the apex and correspondingly to the dorsal spot. Hindwings brownish fuscous; cilia concolorous. Underside of wings brown with considerable lustre. Legs yellowish fuscous.

Exp. 8.0–9.0 mm.; 0.32–0.36 inch.

Hab.—Atlantic States.

A specimen in my collection was received from Webster, New Hampshire.

E. cæmitariella Cham.—Dyar's List, p. 574, No. 6538, syn.—Certainly distinct from the preceding species, with which indeed it agrees in general appearance, but from which it is readily distinguished by the following characters: All wing markings narrower, more oblique, especially noticeable in the first and second costal spots and the first dorsal spot, which is farther removed from the base; the costal spot before the apex is small and inconspicuous, simply oblique. In the three or four type specimens in the Cambridge Museum, the apical cilia are brown. The markings vary from mere marginal spots to entire fascias.

Exp. 8.0 mm.; 0.32 inch.

Hab.—Kentucky; Gulf States.

PROGONA gen. nov.

Type *Skinnerella*.

Head entirely rough haired. Labial palpi cylindrical, drooping (in the dead insect) and spreading, of moderate length; second joint clothed with spreading, hairlike scales, in its apical half, leaving only the upper edge free and giving it a bushy appearance, third joint nearly as long as the second, roughened beneath towards the apex, latter obtusely jointed. Maxillary palpi plicate. Antennæ of moderate thickness, first joint short, thickened, joints closeset, with verticils of scales, simple, and about two-thirds (♂) or nearly as long (♀) as the forewing. Eyes rather large, not prominent and almost entirely concealed from above. Body somewhat robust. Forewings elongate elliptic, pointed; 11 veins, 3 absent, 4-5 and 6-7 stemmed, 10 remote from anterior angle of cell, 1^b shortly furcate. Hindwings syntar-shaped, costa emarginate from two-fifths the wing length; 8 veins; 4 and 5 from a common stem, which arises from the apex of the cell, which is closed, 7 evanescent towards its origin, 8 short, scarcely two-fifths the wing length, cilia under 2. Hind tibiae rough haired.

A very distinct genus, not closely related to any other known to me. In appearance the species resemble *Opostega*. The three species here recognized are closely related; of small size, white color with brown costal spots, and are distinguished as follows:

Face black.

Thorax entirely white.....**skinnerella**.

Thorax with a brown spot each side anteriorly.....**bipunctella**.

Head entirely white.....**floridella**.

P. skinnerella n. sp.—Palpi and face blackish brown, limited above by a line drawn across from lower margin of first antennal joint, above this the head is pure white. Antennæ fuscous brown, becoming white towards the base, apex a trifle paler. Thorax pure white. Abdomen pale grayish fuscous, with some scattered white hairs, anal brush yellowish white. Forewings white, costa dark chocolate brown for four-fifths its length with three wave-like dilations, the first at the base, second before the middle, and the third beyond the middle; remainder of surface with scattered brown scales, an aggregation of these form an irregular spot at the beginning of dorsal cilia and another just below the apex, the latter spot seems to consist of two or three short striae; apical part of wing thinly overlaid with yellowish red, having a faint golden reflection in certain lights. Cilia yellowish red, with dark brown scattered scales and one or two irregular dividing lines. Hindwings grayish fuscous; cilia yellowish fuscous. Underside of forewings dark fuscous; hindwings paler. Underside of thorax brown; abdomen yellowish gray, sprinkled with fuscous. Anterior and

middle legs brown, tarsal joints paler at apex; hindlegs yellowish, tinged with gray and fuscous.

Exp. 7.5 mm.; 0.3 inch.

Hub.—New Jersey (Caldwell).

Taken by Mr. D. W. Kearfott in July, and to whom I am indebted for a male specimen. Named in honor of my friend Dr. Skinner.

P. bipunctella n. sp.—Pl. VI, fig. 1.—Labial palpi brown, apices of second and third joints paler, maxillary palpi yellowish. Face and anterior part of head a rich brown, remainder of head white, with a faint tinge of yellowish. Antennae nearly as long as the forewing, brown, basal joint deep brown, apex a trifle paler. Thorax white, a large oval, velvety, dark brown spot each side before the insertion of the forewing, the latter white, costa brown from base to apex, though paler towards the latter, the brown dilated in the basal third to one-third the wing breadth, a similar expansion in the last third, an irregular spot on the dorsal margin about the middle; scattered brown scales along the entire dorsal margin, more evident along base of cilia, latter pale brown, densely sprinkled with brown scales in costal portion, white around the apex; remainder of surface very sparingly sprinkled with pale brown scales, giving it a somewhat sordid appearance; in the apical part of the wing are several ill-defined patches of pale golden yellow; the dark brown has in certain lights a golden reflection; underside brownish. Hindwings grayish fuscous. Abdomen above grayish fuscous. Underside of body silvery white, tinged with fuscous. Legs silvery gray, anterior and middle dusted with fuscous; tarsi brown above, joints slightly paler at apex; hind legs entirely yellowish gray.

Exp. 9.0 mm.; 0.36 inch.

Hub.—Florida (Hastings).

A single female specimen in my collection.

P. floridella n. sp.—Head and thorax entirely white, former slightly tinged with yellow posteriorly and between the antennae. Palpi yellowish. Antennae scarcely two-thirds the wing length, brown, basal part and extreme apex whitish. Forewings white, costa seal brown for three-fourths, not dilated near the base, a conspicuous blackish brown costal spot about two-thirds the wing length; a blackish spot or short dash on the disc, just before the middle and nearer the costal than dorsal margin, a short dash just before the apex nearer the dorsal margin; apical two-fifths near the costa, and apical part of wing, thickly dusted with golden yellow. Cilia ochreous yellow, whitish at beginning of dorsal portion, with scattered brown scales, forming two ill-defined lines. Hindwings grayish fuscous. Abdomen pale fuscous above. Underside of body grayish silvery. Legs yellowish white; anterior tibiae and tarsi dark brown, middle and posterior tinged with brown.

Exp. 8.0 mm.; 0.32 inch.

Hub.—Florida (Hastings).

A male specimen in my collection.

HOMOSETIA Clem. (*Pithys*, Ch.)

Type *tricingulatella* Clem.

Head entirely rough haired, sometimes in lateral tufts on the vertex. Labial palpi cylindrical, spreading, semi-porrect; second joint slightly incrassate towards the apex, with spreading apical and generally lateral setæ, terminal joint shorter than the second, pointed. Maxillary palpi plicate. Antennæ three fourths the length of the forewings, rarely (subgenus *Diachorisia*), only one-half, with closely set joints, not or very finely pubescent in the male, more rarely with verticillate scales, and distinctly pubescent in the male (*Diachorisia*). Eyes round, visible from above.

Forewings elongate-lanceolate, with or without scale tufts. All veins present, free, or 7-8 stemmed (*Diachorisia*); vein 2 sometimes obsolete towards its origin; vein 1^b simple. Hindwings scarcely over one half, lanceolate or lineo-lanceolate, costa retuse in its outer two or three fifths, cilia over 2, 8 veins, free, or rarely (subgenus *Stenoptinea*), veins 5 and 6 stemmed. Posterior median moderately distant (*Calostinea*, *Diachorisia*), or else very close to the wing margin, and vein 2 merely rudimentary (*Homosetia*, *Stenoptinea*). Cell closed. Internal veins absent except in *Calostinea* and *Diachorisia*. Hind tibia rough haired.

Narrow-winged species, differing essentially from *Tinea* L. only in vein 1^b of forewings being simple at base. As here defined the genus includes the genus *Semele* Ch. and *Diachorisia* Clem. *Semele cristastella*, the type of the genus is a true *Homosetia*, whereas the other two species *argentinotella* and *argentistrigella*, placed by Chambers in this genus, differ somewhat structurally. *Diachorisia*, the type of which I have critically examined, is not sufficiently distinct to warrant its retention as a distinct genus. Dr. Clemens' description as well as delineation of the hindwing, is erroneous; the costal margin is distinctly emarginate in its outer half, veins 5 and 6 are apparently free, and vein 8 attains the margin just beyond the middle. There is nothing in the type, suggestive of any close relationship to *Incorraria* or *Eudarcia*, as pointed out by the author.

On account of structural differences, I shall arrange the species under four subgenera, as follows:

Forewings with an accessory cell; no scale tufts. Hindwings with posterior median vein not close to wing margin, internal vein present.

Antennæ of ♂ distinctly pubescent; forewings without metallic markings; veins 7 8 stemmed; costa of hindwings distinctly emarginate.

Diachorisia.

- Antennæ of male simple; forewings with metallic markings, costa of hindwings very feebly emarginate.....**Calostinea**
 Forewings without accessory cell. Hindwings with posterior median vein, very close to wing margin, vein 2 rudimentary, internal veins absent.
 Veins of hindwing free.....**Homosetia**.
 Veins 5 and 6 of hindwing stemmed.....**Stenoptinea**.

Aside from the species, which properly belongs here, I append four species, the generic position of which I am in doubt of. Two of these are known to me, without, however, being enabled to study their venation, these are *Tinea septem-strigella* Ch. and a new species—*heteropalpella*; the others not known to me, are two species described by Walker, *martinella* and *afflictella*, and placed by him in *Tinea*, but the long cilia of the hindwings induced me to place them rather in the genus under consideration than in the former.

These four species will be tabulated as of doubtful generic position.

Subgenus **DIACHORISIA** Clem.

Very little is to be added to what has been stated before. The antennæ are shorter, about half as long as the forewings, roughened and pubescent in the male. The insect is small, sordid white, with dark brown markings. One specimen.

II. velatella Clem.—Dyar's List, p. 573, No. 6537.—Head ochreous gray, mixed with brown. Labial palpi whitish within, fuscous externally. Antennæ grayish ochreous, basal joint whitish. Thorax whitish, speckled with fuscous scales, patagia fuscous anteriorly. Forewings lanceolate, sordid white, dusted with pale fuscous scales and spotted with darker fuscous, about four or five distinct and some smaller, costal spots, a spot in middle of disc, another at end of cell, and one on the fold beneath the first discal spot. The third distinct costal spot is just beyond the middle. In the apical part of wing the dark scales are aggregated into some indistinct spots. Cilia with indistinct dividing line at three-fourths their length, and some scattered scales. Legs ochreous white, dusted with fuscous.

Exp. 9.0 mm.; 0.36 inch.

Hab.—Pennsylvania.

The type, in fair condition, is in the Academy of Natural Sciences, Philadelphia. Another specimen in my collection.

Subgenus **CALOSTINEA**.

Wings relatively wider; costa of hindwings feebly emarginate beyond the middle. The species are of a dark, rich brown appearance. Forewings marked with silvery white streaks and spots, which consist of raised, but not tufted scales.

As stated before, the two species described by Chambers, were placed by him in *Semele*.

They are distinguished as follows :

With transverse white fascia **argentistrigella**.
Without such a fascia **argentinotella**.

H. argentistrigella Ch.—Dyar's List, p. 574, No. 6546.

I here give Chamber's description :

" Face and palpi silvery white, outer surface of the labial palpi brown ; antennæ silvery beneath, maroon brown above, annulate with silvery white ; vertex maroon brown, thorax above, a spot under each wing and the basal portion of the primaries rich maroon brown, or in some lights violaceous, with a narrow irregular white fascia upon the wings behind the maroon basal portion ; behind the fascia the primaries are maroon brown or violaceous mixed with white towards the fascia, the white gradually disappearing towards the apex. Six oblique silvery costal streaks, the first being small and the others becoming gradually larger to the fifth, the sixth again being smaller ; two distinct dorsol apical white streaks and a small patch of maroon, dusted with white in the dorso-apical part of the wing, which is continuous with those of the five dorsal silvery streaks ; dorsal cilia silvery ; abdomen violaceous, each segment silver fringed ; legs silvery iridescent. Alar ex. $\frac{1}{2}$ inch. Kentucky.

Not known to me in nature.

H. argentinotella Ch.—Dyar's List, p. 574, No. 6547.—Palpi and face creamy yellowish, second joint of labial palpi blackish externally. Vertex, thorax and basal portion of forewings a rich velvety brown, patagia mixed with whitish. Antennæ over $\frac{3}{4}$, brown, finely annulate with pale, the basal portion of the forewings is angulated externally on the fold, it reaches to about one-fifth on the costa and one-fourth on the dorsal margin, and extends more or less interruptedly on the fold, and also along the costal margin, immediately beyond the basal patch, the wing is strongly suffused with silvery white to about the middle, when it becomes overlaid with bronzed brown, more especially in the dorsal half of wing ; the dark brown of the costal margin becomes gradually wider towards the apex, and completely covers the apical part of the wing ; on the costa are eight silvery white oblique spots, the first of these is immediately beyond the basal space, and is almost confined to the extreme costa, the following spots become less and less oblique, all pointing backward, except the last, just before the apex, which is perpendicular to the margin, and points forwards, opposite to the last is a similar dorsal spot, and preceding it, five or six oblique, but less distinct dorsal spots ; two distinct silvery spots at end of cell ; all these spots are raised above the surface, but differ entirely from the scale-tufts of *Homosetia* proper. Along the anterior part of the dorsal cilia, the wing is more distinctly silvery white ; costal cilia dark brown, dorsal portion whitish, with a median dividing line, and another towards the free margin, basal portion more brown, the marginal spots extend into the cilia. Hindwings pale brassy brown ; cilia fuscous. Abdomen brown, tinged with silvery ; anal

tuft creamy white. Underside of body silvery white, tinged with brown; legs creamy white, tibiae and tarsal joints spotted with dark brown.

Exp. 12.0-17.0 mm.; 0.48-0.68 inch.

Hub.—Kentucky; Florida (Hastings).

A specimen in my collection from the last named locality is much smaller than the expansion given by Mr. Chambers, but which, without a doubt, is this species. The author mentions only seven costal spots, but no doubt overlooked the one immediately following the dark basal space. I am strongly inclined to the opinion that the present species is only a variety of *H. argentistrigella*.

Subgenus **HOMOSETIA.**

Contains the bulk of the species. The wings vary in width from nearly lineo-lanceolate to lanceolate of the forewings. Hindwings from lineo-lanceolate to lanceolate, costa distinctly retuse in its outer half or three-fifths. Forewings with scale tufts.

The species may be distinguished as follows:

Forewings dark brown or blackish brown.

Face white, vertex black.

A large, well defined silvery spot near the base.....**cristatella.**

Without such a spot.....**obscura.**

Head orange.....**chrysoadpersella.**

Forewings tawny, or yellowish brown.

With white costal spots.

Wings narrower; spots not oblique.....**costisignella.**

Wings wider; costal spots oblique.....**fasciella.**

Without white costal spots.....**maculatella.**

Forewings grayish white.

Forewings wider, less elongate; subcostal tuft of median fascia large.

miscrocristatella.

Forewings narrow, subcostal tuft of median fascia small.

tricingulatella.

H. cristatella Ch.—Dyar's List, p. 574, No. 6548.

Mr. Chambers describes this species as follows:

Maxillary palpi yellowish white; labial palpi with the second joint dark brown with a white line along its upper surface; third joint white. Face white, vertex black, antennæ brown, and the upper surface of the thorax deep velvety black. Forewings shining velvety black with a large spot like burnished silver at the base, and not quite touching the costa, margined behind by a transverse row of raised scales; about the basal fourth is a shining silvery fascia which is slightly curved, a little irregular in outline, widest about the middle, but wider on the costal than on the dorsal margin, and margined behind by a transverse row of scales. About the middle of the wing is another fascia of the same hue, which is a little oblique, being nearer the base on the costal than on the dorsal margin.

and appearing under the lens to be slightly interrupted about the middle; it also is irregular in outline, and margined behind with a transverse tuft near the costa, and has some scattered silvery scales, margining it behind from the middle to the dorsal margin, and extending back along the margin. Just before the costal fringe is a large silvery spot which extends nearly to the dorsal margin, and almost unites with the silvery scales by which that margin is marked behind the second fascia. In the second fascia, on the extreme costa, are two minute white spots, and on the extreme costa in the large silvery spot before the cilia are two others, and behind them yet two others more distinct; these last four spots are nearly equidistant, and opposite to them are three others at the base of the dorsal cilia. Cilia showy white. Hindwings and upper surface of the abdomen silvery tinged with golden. Under surface of the primaries brown, tinged with purple, that of the hindwings a little paler. First and second pair of legs mainly white. Venter with the basal half of each segment brown, apical half yellowish white. Al. ex. a little over $\frac{1}{2}$ inch. Kentucky in June. The tufts on the wings are very easily rubbed off.

This is the type of Chambers' genus *Semele*, which, however, as stated before, is not distinct from *Homosetia* Clem. The type in good condition is in Cambridge. A beautiful and strongly marked form; the second silvery fascia is rather behind than "about" the middle; the third tuft is quite large and at the end of the cell; there is also a small tuft at three-fifths of the fold. I have seen no other specimen like it.

II. obscurella n. sp.—Maxillary and labial palpi sordid, yellowish white, second joint of the labial palpi externally and beneath fuscous brown. Face whitish, vertex brown. Antennæ sordid, grayish ochreous, finely annulate with fuscous above, basal joint dark brown. Thorax dark purplish brown. Forewings dark, golden brown, irrorated with silvery blue and sparsely sprinkled with some darker and paler scales; an oblique scale tuft at one-fourth, immediately below the fold, a large discal tuft at one-third, nearer the costa, a transverse tuft at end of cell, all the tufts are dark seal brown, scarcely paler within; along the base of the costal cilia near the apex are three or four small oblique silvery white spots, preceded by some minute, pale dots on the costa, the last of the costal spots forms with the last dorsal spot a curved line enclosing the apex; an indistinct pale silvery space between the first and second scale tufts there is also a bluish silvery oblique line from the costa between the second and third scale tufts and another similar spot a little beyond, these latter spots contain no white scales. Costal cilia brown, with three or four pale lines, apical and dorsal cilia yellowish sprinkled with fuscous scales in basal half. Hindwings pale fuscous, with strongly brassy lustre, cilia concolorous. Underside of wings fuscous with purple reflection. Abdomen fuscous; underside of body and legs grayish white, dusted with fuscous; tarsi banded with fuscous.

Exp. 11.0 mm.; 0.44 inch.

Hub.—Kansas (Onaga).

A male specimen in my collection, quite distinct from *cristatella* as well as *chrysoadspersella*, though nearer the latter.

H. chrysoadpersella n. sp.—Pl. II, fig. 8.—Maxillary and labial palpi silvery white, the latter externally, and the third joint within at the base, brownish. Face orange yellow becoming orange brown on the vertex. Antennæ $\frac{3}{4}$, brown above, silvery white beneath. Thorax deep brown. Forewings dark brown, irrorated with silvery gray, which in certain lights has a blueish reflection, and sprinkled with fine golden scales; costal, and to some extent, the dorsal margin, darker; in the basal fourth are three rounded, ill-defined silvery spots, between these and on the fold is a scale tuft, beyond these is an oblique, ill-defined, silvery band limited externally at two-fifths the wing-length, by two discal scale tufts, the lower of which is on the fold, exterior to these tufts is an oblique, ill-defined, darker fascia, externally to this another oblique silvery fascia, interrupted below the middle; two tufts at end of cell and another at almost the end of fold, all the tufts are very dark, velvety brown, faced towards the base with silvery white scales; six silvery white costal spots, the first before the middle, the first and second of these are somewhat oblique, the third perpendicular to the margin, the remaining three directed obliquely backward, the fourth spot forms with an opposite spot on the dorsal margin, an angulated, silvery line or band; on the dorsal margin are five or six similar spots; a narrow subcostal line of golden yellow in basal third. Cilia gray, basal portion dark brown, barred with silvery lines corresponding with the marginal spots. Hindwings grayish fuscous without metallic lustre, cilia concolorous. Abdomen above fuscous brown; body beneath and legs silvery white, the latter tinged with brown, tarsal joints brown above, except at their apex.

Exp. 8.5 mm.; 0.34 inch.

Hab.—Maryland (Plummer's Island).

A single specimen sent me by Mr. A. Busek, who took it at the above locality in September, 1903. Type in the National Museum.

H. costisignella Clem.—Dyar's List, p. 574, No. 6498.—Pl. V, fig. 2.—Maxillary and labial palpi dark fuscous, the latter paler within and whitish at the apex. Head sordid ochreous, intermixed with brown. Antennæ dark fuscous above, paler beneath. Thorax and forewings reddish fulvous, the latter narrow; costal margin and dorsal margin from about the middle to apex, blackish brown; on the costal margin are about eight spots, which are somewhat arranged in pairs, the second pair about the middle in such a way that the third spot is before and the fourth behind the middle, the remaining four spots are within the last third, and the last of these extends across the apex to a small dorsal spot; the apical part is thickly dusted with dark brown, this space is rather sharply limited by an oblique line which extends from beginning of dorsal cilia to the fifth or sixth costal spot, and interspersed with silvery white scales; the remainder of the wing is traversed by obscure, oblique silvery lines, which proceed from the first four costal spots, the two exterior of these lines become confluent and form an indistinct fascia, these lines become less distinct as they approach the dorsal margin, and in a certain light have a blueish pearly appearance; a blackish brown scale tuft at end of cell. Cilia gray with a rather wide, more or less interrupted dividing line at basal third. Hindwings gray, with brassy lustre, darker towards the apex; cilia concolorous. Abdomen above and beneath fuscous brown mixed with gray. Legs pale yellowish gray, anterior and middle pair dark brown externally; tarsal joints pale at apex; hind legs paler.

Exp. 10.0 mm.; 0.4 inch.

Hab.—Pennsylvania (Hazleton; Mauch Chunk); New Jersey (Essex Co.); New York (Ithica).

The type of this species in good condition (one pair of wings only) is in the Academy of Natural Sciences, Philadelphia. The difference of this from the following species will be referred to under the latter, to which I may here add another point, namely the solitary scale tuft at end of cell in *costisignella*.

H. fasciella Ch.—Dyar's List, p. 574, No. 6541.—Face and palpi creamy yellow, second joint of labial palpi brownish externally, vertex tawny brown. Antennæ silvery gray beneath, dark brown above. Thorax dark golden brown. Forewings tawney golden brown intermixed with silvery white, both margins, and a longitudinal streak through the disc, which is a little nearer to the costa than to the dorsal margin, dark brown; seven white costal streaks, the first at one-fourth, the second just before the middle, the first four of these are oblique and rather distant, the other three more closely together, are nearly perpendicular to the margin; apical half of dorsal margin with a number of short transverse strigæ; a pair of dark seal brown scale tufts at two-fifths, the upper one smaller in middle of disc, the lower one quite large beneath the fold; another pair of tufts at end of cell, some of these tufts are faced externally with silvery white; a golden yellow subcostal streak from near the base to nearly three-fourths the winglength, more or less distinct. Cilia pale gray, with an interrupted subbasal dividing line. Hindwings grayish fuscous with brassy lustre. Underside of body yellowish gray, legs grayish white, more or less fuscous externally; tarsi fuscous, joints pale at apex.

Exp. 12.0–13.0 mm.; 0.48–0.52 inch.

Hab.—Kentucky; Pennsylvania (Hazleton); New Jersey (Montclair), New Hampshire (Hampton).

Very similar to, but quite distinct from, *H. costisignella* Cl., from which it differs by its larger size, relatively wider wings and the differently arranged costal spots.

H. maculatella n. sp.—Maxillary and inside of labial palpi sordid yellowish white, dusted with fuscous, the latter externally, except apex of third joint, dark brown, the second joint with isolated black setæ beneath and at apex. Head a bright ochre yellow. Antennæ $\frac{3}{4}$, fuscous brown above silvery gray beneath. Thorax sordid yellowish white, finely speckled with darker scales; patagia dark brown anteriorly. Forewings lanceolate, a pale ashen gray, tinged with yellow, dusted and spotted with dark blackish brown, as follows: basal fifth of costa, a spot at one-fourth; a conspicuous costal spot about the middle, and which extends as an oblique, irregular fascia to the inner margin; another similar though smaller fascia at two-fifths, more or less interrupted, and also reaching the dorsal margin, beyond this are three to four costal spots, gradually increasing in size; base of dorsal cilia dotted with brown; cilia yellowish with dark brown bars and lines, correspondingly to marginal spots. Hindwings grayish fuscous with brassy lustre; cilia yellowish gray. Underside of wings grayish fuscous. Abdomen above grayish fuscous; underside of body and legs sordid

yellowish tinged with fuscous, anterior and middle tibiae and tarsi more conspicuously dark brown, joints of latter pale at apex.

Exp. 10.0-12.0 mm.

Hab.—Pennsylvania (Hazleton); California (Placer County).

A peculiar species, differing in appearance from our other species. The costa of forewing more arched from base; the costal cilia give the appearance as though the costal margin was emarginate beyond the middle. This species has veins 7 and 8 of forewing stalked, but does not differ otherwise in neuration; its distribution is certainly remarkable; my specimens were taken at light. Scale tufts of forewing very feeble.

II. *miscocristatella* Ch.—Dyar's List, p. 574, No. 6544, 6542, 6543.—Palpi and face creamy white, labial palpi externally, except apical half of terminal joint, fuscous; vertex white and fuscous intermixed, varying from nearly white to dark fuscous; antennae fuscous, paler beneath. Thorax fuscous brown, speckled with gray. Forewings sordid white, dusted more or less thickly with fuscous scales and intermixed with golden yellow scales, aggregated into lines and patches; markings dark fuscous brown, and arranged as follows: Extreme base of costa, and to a less extent the base; an oblique costal spot very near the base, and containing a patch of yellow scales within the costal margin; an oblique fascia, more or less complete before the middle, containing likewise a similar patch of yellow scales, a transverse fascia, more or less complete at two-thirds, a well marked costal and dorsal spot between the second and third fascia, beyond the last fascia are four oblique white costal spots, and about three on the dorsal margin; a small scale tuft just before the first oblique costal spot below the fold, two tufts along the inner margin of the second oblique fascia, the larger one transverse on the disc the smaller further outwards below the fold, a very small tuft below outer end of fold; a large transverse tuft at end of cell, these tufts consist of dark brown scales, faced externally with golden yellow. The fuscous dusting conceals the ground color more or less completely in the apical part of the wing; the golden yellow scales at times form a subcostal streak from near the base. Cilia grayish with a well-defined dividing line at one-third, and an ill-defined one at two-thirds, and with pale lines from the marginal spots. Hindwings grayish fuscous, with brassy lustre, cilia gray. Abdomen above grayish fuscous; body beneath and legs yellowish silvery white; anterior and middle tibiae and tarsi dark fuscous brown, tarsal joints paler at apex.

Exp. 9.0-11.0 mm.; 0.36-0.44 inch.

Hab.—Atlantic States.

I have seen the type in Cambridge of this species as well as of *Pithys anrocristatella* and *fuscocristatella*, and fully agree with my friend Mr. Busck, who, somewhat cynically, states that they are specimens of the same species in various states of rubbedness; *aurocristatella* has the head entirely whitish and the wings more conspicuously white than usual; *fuscocristatella* is badly worn and

without doubt is identical with *miscecristatella*. For differentiation from *tricingulatella* I refer to that species.

H. tricingulatella Clem.—Dyar's List, p. 572. No. 6524.—Palpi whitish, dusted with fuscous externally and with a dark fuscous spot on second and third joint above. Head sordid white, intermixed with fuscons above. Antennæ fuscous. Thorax gray, patagia dark fuscous anteriorly. Forewings narrow, margins, especially the costal, nearly straight, subparallel; grayish white dusted and speckled with fuscous; extreme base, a fascia at one-fifth; a second one, more oblique, before the middle, a third fascia at two-thirds, curved, sinuate within; these three fascia reach the inner margin more or less distinctly, beyond the third fascia are three costal and three corresponding dorsal spots, forming more or less distinct, transverse bands; both margins are more or less dotted between the fascias; a dark spot at the apex, a pair of dark brown scale tufts along the inner margin of first and second fascia, the lower tuft being the larger; a tuft on the anterior margin of third fascia, all these tufts are faced with silvery white scales within. Cilia grayish, with a broad, peri-apical, dividing line near the base, barred with short white lines which proceed from the white lines between the apical marginal spots. Hindwings pale grayish fuscous, with feeble brassy lustre. Abdomen dark fuscous brown above, underside fuscous mixed with white. Anterior and middle legs whitish, spotted with dark fuscous, posterior legs grayish fuscous.

Exp. 10.0 mm.; 0.4 inch.

Hab.—Pennsylvania, New Jersey (Essex County).

My friend, Mr. A. Busek, considers this species identical with the preceeding. A view I cannot share. I have again made careful comparisons of the type, which is in good condition in the Academy of Natural Sciences, Philadelphia, with well authenticated specimens of *H. miscecristatella* and can reach but one conclusion, that they are distinct, though closely related. The wings in *tricingulatella* are distinctly narrower, margins almost parallel, the upper tuft of median fascia scarcely as large as the lower and immediately above it, while the lower one is further outwardly in *miscecristatella*. A specimen in my collection, received from Mr. W. D. Kearfott, is identical with the type.

Subgenus **STENOPTINEA.**

Characters, those of *Homosetia* proper, except that veins 5 and 6 of hindwings are stemmed. The hairs of the vertex project forward in form of a tuft which is met by the ascending hairs of the face.

The two species here recognized are the smallest Tineids with plicate maxillary palpi known to me, and may be distinguished as follows:

Apical part of forewing and cilia not pale	ornatella.
Apical part of forewings and cilia buff brown	auriferella.

II. ornatella n. sp.—Pl. IV, fig. 3.—Labial and maxillary palpi and face, pale yellowish white; third joint of labial palpi almost as long as the second. Vertex and thorax a deep rich brown. Antennæ grayish fuscous, shining. Forewings a rich, dark brown, overlaid in irregular patches of golden and silvery scales; margins darker; on the costa are seven short, silvery white lines, the first three of these are directed obliquely backward, the third is about the middle and the least distinct, the four remaining are nearly perpendicular to the margin, slightly directed forward; just before the middle is a pair of dark seal brown scale tufts, the upper one just above the middle of the wing, the lower one within dorsal margin, a pair of smaller tufts at end of cell; some small silvery spots along the dorsal margin. Cilia grayish fuscous. Underside dark fuscous with a coppery lustre. Hindwings grayish with feeble brassy lustre; cilia concolorous. Abdomen above dark velvety black, anal tuft pale; underside grayish fuscous. Legs pale gray, tinged with fuscous externally; tarsal joints pale at apex.

Exp. 6.5 mm.; 0.26 inch.

Hab.—District of Columbia (July).

A male specimen received from Mr. A. Busck. The smallest Tineid with plicate maxillary palpi known to me.

II. auriferella n. sp.—Maxillary palpi pale yellowish, dusted with fuscous; second joint of labial palpi dark fuscous, whitish above, with rather long apical bristles, terminal joint fuscous in basal half, remainder whitish. Face creamy white. Tuft of head divided in the middle, a rich maroon brown. Antennæ grayish fuscous. Thorax dark brown with a feeble purple lustre. Abdomen dark brown, paler towards its base, anal tuft pale. Forewings a rich dark brown; a large discal scale tuft before the middle, two similar tufts at end of cell; on the costa are six to seven indistinct silvery white stræ, the first and second, directed obliquely backward, the third a mere dot, is beyond the middle, the remaining stræ are directed obliquely forward; within the basal fourth and nearer the costa is a dash of golden yellow scales, another dash of similar scales extends from the first scale tuft to the lower tuft at end of cell and becoming more distinct outwardly; towards the apex the wing becomes a yellowish buff color, with a sprinkling of golden scales; some scattered silvery scales in outer half of wing. Cilia brownish, becoming pale yellow outwardly. Hindwings pale fuscous, with brassy tinge; cilia concolorous. Underside of abdomen and legs pale yellowish gray; tibiae and tarsi fuscous externally; tarsal joints pale at apex.

Exp. 8.0 mm.; 0.32 inch.

Hab.—District of Columbia.

A male specimen received from Mr. A. Busck.

Species of Doubtful Generic Position.

II. ? septemstrigella Ch.—Pl. I, fig. 5.—Dyar's List, p. 572, No. 6522.—"Vertex white; basal joint of antennæ white on the upper, brown on the lower surface, stalk of antennæ black, with a white line along each side. Thorax and basal half of forewings blackish brown, the apical half having its costal half blackish brown and its dorsal half white, the costal brown of the apical half being separated from the basal brown half by a white costal streak, which extends

into the dorso-apical white part; beyond this costal white streak are five others, which likewise extend across the costo apical brown to the dorso-apical white part of the wing, thus dividing it into a number of large spots; the first of these five streaks is oblique, the others perpendicular to the costal margin, and the space or brown spot between the second and third is larger than that between the others. Dorsal cilia brown with numerous narrow white streaks running up through them from the dorsal white margin. In the basal half of the wing there is a narrow white line extending along the fold, and an oblique white costal streak which almost reaches the fold. Face and palpi grayish fuscous. Under surface of body and the legs yellowish. Alar expansion a little over one-fourth of an inch. Bosque County, Texas.

The above is Mr. Chambers' description which agrees with the well-preserved type in Cambridge. The forewings are somewhat falcate, or perhaps better the outer half of the dorsal margin appears somewhat emarginate; the space between the second and third oblique streak spoken off in the text appears to me rather smaller than the preceeding interspace. Hindwings narrowly lanceolate; cilia 3. Forewings without scale tufts. Second joint of labial palpi with a few setæ, third joint short, obtusely pointed.

H. ? heteropalpella n. sp.--Pl. III, fig. 3.--Palpi sordid white; third joint of labial palpi, except the apex, fuscous. Head sordid white, intermixed with brown on the vertex. Antennæ yellowish white, annulate above with brown. Thorax whitish, patagia brown in front. Forewings sordid white, sprinkled with golden brown scales, somewhat arranged in irregular transverse lines; a velvety, dark brown spot on extreme base of costa, from which extends a line obliquely to fold and thence perpendicularly to the dorsal margin; an oblique costal spot at one-third, an irregular transverse band at two-thirds, between the two latter, is a smaller costal spot and a similar spot between the band and apex; a rather large spot in middle of dorsal margin and a small dorsal spot opposite the last costal one; a round spot at the extreme apex. Cilia whitish sprinkled with dark brown scales; all the dark brown spots consist of semi-erect scales. Hindwings silver gray; cilia pale gray, faintly yellowish at base. Abdomen grayish fuscous. Legs ochreous white; anterior and middle tibiæ and tarsi tinted with fuscous.

Exp. 8.0 mm.; 0.32 inch.

Hab.—Maryland (Plummer's Island).

A single female specimen was received from Mr. A. Busck and is now in the National Museum collection.

A very peculiar species, which no doubt, on careful study of its venation in connection with the following structural characters, will prove generically distinct. Maxillary palpi unusually developed, six jointed, folded; first joint about as long as the following five joints together, the latter scaly and overlapping the labial palpi; latter cylindrical moderately thick, second joint with apical setæ, third joint

pointed. Head entirely clothed with long, rough, hair. Eyes small, round, somewhat approximated and freely visible above; vertex narrow. Antennæ nearly three-fourths, first joint nearly as long as vertex is wide, joints not closely set, with verticils of loosely appressed scales. The forewings are elongate-lanceolate and veins 6 and 7 appear to be stemmed. Hindwings narrowly lanceolate, costa emarginate in apical two-fifths. Hindwings narrowly lanceolate, costa emarginate in apical two-fifths. Hind tibiae rough haired. The generic name *Pelutes* is suggested.

"**H. ? (*Tinea*) *martinella*** Walker.—Dyar's List, p. 573, No. 6529.—*Mas. nigro-cinerea*; caput nigro-pilosum; palpi brevissimi; antennæ subsetulosæ; alæ antice nigro subconsperso, plaga disci fuscacenti.

"*Male*:—Blackish cinereous, head with short thick set black hair; palpi very short; Antennæ rather short, minutely setulose, shorter than the forewings. Wings narrow, fringe long. Forewings thickly specked with black; a brownish patch in the middle of the disc. Length of body 3 lines, of the wings 8 lines. St Martin's Falls, Albany River, Hudson Bay."

Unknown to me. I am indebted to Mr. A. Busck for transcript of this and the following species. I place these two species provisionally here, rather than in *Tinea* proper, on account of their narrow wings and long cilia, the coloration also would seem to favor this.

H. ? (*Tinea*) *afflictella* Walker—Dyar's List, p. 573, No. 6330.—"*Female*.—Blackish cinereous, slender. Head thickly clothed with short erect hairs. Palpi smooth porrect, nearly as long as the breadth of the head, third joint acute, a little shorter than the second. Antennæ much shorter than the forewing. Abdomen dark cinereous extending for nearly its entire length beyond the hindwing. Legs long, slender. Wings narrow with a very long fringe. Forewings rounded at the tip with three lines of black points, one near the costa, the other two near the interior border; exterior border very oblique. Hind wings dark cinereous. Length of body, 4 lines; the wings, 12 lines.

"St. Martin's Falls, Albany River, Hudson Bay."

Unknown to me.

LEUCOMELE gen. n.

Type *miriamella*.

Head entirely rough haired. Labial palpi cylindrical, drooping, slightly compressed and moderately stout; second joint slightly roughened beneath with scales, with apical bristles; terminal joint pendant, nearly as long as the preceding. Maxillary palpi plicate. Eyes rather small, prominent. Antennæ simple, about three-fifths

the length of forewings, rather thick. Forewings elongate, without scale tufts; 11 veins, all free; 11 arises very near the base, 1^b simple. Hindwings lanceolate, costa retuse from just before the middle to apex; 8 veins; cell open between 3 and the common stem of 4, 5 and 6. Cilia over 2. Hind tibiæ fringed with long hairs.

A very distinct genus, closely allied to *Homosetia*, from which it differs in venation of hindwings, the open cell of the latter likewise distinguishes it from the other allied genera. One species.

L. miriamella n. sp.—Pl. III, fig. 8.—Labial palpi dark fuscous brown externally, second joint and apex of third whitish within. Maxillary palpi creamy white. Face yellowish white, vertex and thorax blackish brown, hairs of head somewhat tufted each side. Ground color of forewings white, overlaid with a rich dark brown, the latter condensed in the costal half of wing and in the apical part, except an irregular, rhomboidal costal spot just beyond the middle; in the basal part of dorsal half of wing, the dark scaling is less dense, two well-marked dashes on the fold and another obliquely above the outer plical dash, immediately behind the latter, at the end of cell is a rather pure white spot and a similar one between the two dashes on the fold. Cilia yellowish white, with a somewhat irregular dividing line, and five or six dark brown streaks extending from the dark apical part of wing, one of these expands into a distinct round spot in the apical portion; aside from these are numerous blackish, scattered scales. Hindwings fuscous with a faint metallic lustre, cilia concolorous. Abdomen fuscous above, tinged with silvery gray, underside of body silver gray. Legs grayish, anterior and middle, more or less fuscous externally; tarsal joints fuscous above.

Exp. 9.5–13.0 mm.; 0.38–0.52 inch.

Hab.—Pennsylvania (Hazleton; Mauch Chunk); Maryland (Plummer's Island).

A number of specimens were taken by my daughters on the trunk of an old cherry tree in June and July, and after one of which it gives me pleasure to name this interesting addition to our fauna.

GENE Chamb.

Dyar's List, p. 574.

Head entirely rough haired. Labial palpi cylindrical, drooping; second joint but little longer than terminal, with strong apical bristles, terminal joint pointed. Maxillary palpi plicate. Antennæ about three-fourths the length of forewing, of moderate thickness, simple. Eyes round, salient. Forewings lanceolate, without scale tufts; 11 veins, 2 absent, 6 and 7 out of 5, 1^b simple. Hindwings narrowly lanceolate, costa retuse in its outer two-fifths; neurulation feeble, 7 veins, 2 absent, 5 and 6 stalked, posterior median very

close to dorsal margin, cell open between 3 and 4. Cilia nearly 3. In its narrow wings, closely resembling *Homosetia*, but venation differs entirely. One species.

O. hybromella Cham.—Dyar's List, p. 574, No. 6545.—Labial palpi brownish externally, apical half of second joint and apex of third whitish within. Maxillary palpi yellowish brown. Head yellowish white, intermixed with brownish on the vertex. Thorax and basal two-fifths of forewings maroon brown, the latter intermixed with darker spots; this darker space recedes somewhat in the costal portion of the wing, remainder of wing yellowish white, sprinkled with dark brown scales, especially towards the apex and forming several larger spots on the costa. Cilia pale yellow, sprinkled with brown scales. Hindwings gray with a brassy lustre; cilia grayish. Abdomen grayish fuscous. Legs pale yellowish, anterior and middle brownish externally.

Exp. 8.0-9.0 mm.; 0.32-0.36 inch.

Hab.—Kentucky; New Jersey (Essex County, Kearfott).

Two specimens in my collection, kindly given me by Mr. W. G. Kearfott.

The above description is slightly at variance with Mr. Chamber's description of this species; the dark basal space of forewing does not extend to the middle.

LIST OF SPECIES.

AMYDRIINÆ.

Amydria Clem.

brevipennella n. sp.

efrenatella Clem.

coloradella n. sp.

arizonella n. sp.

??

apachella n. sp.

elemensella Ch.

curvistrigella n. sp.

pandurella n. sp.

confusella n. sp.

onagella n. sp.

???

obliquella n. sp.

dyarella n. sp.

marjorieella n. sp.

Paraplesia gen. n.

Busckiella n. sp.

Paraneura gen. n.

simulella n. sp.

ehrhornella n. sp.

cruciferella n. sp.

Setomorpha Zell.

majorella n. sp.

sigmoidella n. sp.

Epilegis gen. n.

cariosella n. sp.

Apotomia gen. n.

fractiliniella n. sp.

Semiota gen. n.

operosella, Zell.

inamœnella Zell.

transversestrigella n. sp.

Apreta gen. n.

paradoxella n. sp.

Epichæta

nepotella n. sp.

TINEINÆ.

Scardia Tr.

- anatommella Grote.
coloradella n. sp.
fuscofasciella Ch.
tessulatella Zell.
Busckerella Busek.
approximatella n. sp.

Xylesthia Clem.

- pruniramiella Clem.
Kearfottella n. sp.

Abacobia gen. n.

- carbonella n. sp.

Monopis Hüb.

- rusticella Hüb.
biflavimaculella Clem.
marginistrigella Ch.
monachella Hüb.
dorsistrigella Clem.
croceicapitella Clem.
irrorella n. sp.

Trichophaga Rag.

- tapetiella L.

Pryganeopsis Wlsh.

- brunnea Wlsh.

Incurvaria Haw.

- oregonella Wlsh.
russatella Clem.
piperella Busck.
rheumapterella n. sp.
aenescens Wlsh.
politella Wlsh.
labradorella Clem.
aeneovirens n. sp.

Greya Busck.

- humilis Wlsh.
salenobiella Wlsh.
punctiferella Wlsh.

Cyane Ch.

- vesaliella Ch.

Breckenridgia Busck.

- acerifoliella Clem.
? chrysorella n. sp.

Isocorypha gen. n.

- mediostriatella Clem.
chrysocomella n. sp.

Tinea L.

- misella Zell.
obscurestrigella Ch.
fuscipunctella Haw.
apicistrigella Ch.
orleansella Ch.
straminiella Ch.
bimaculella Ch.
trimaculella Ch.
carnariella Clem.
griseella Ch.
grumella Zell.
pellionella L.
miscella Ch.

- behrensella Ch.
occidentella Ch.
tusconella n. sp.

- croceocapitella Ch.
thoracestrigella Ch.
vicinella n. sp.
unomaculella Ch.
niveocapitella Ch.
lencocapitella Busck.
seminolella Beut.
ophrionella n. sp.
xanthostictella n. sp.
imitatorella Ch.
mandarinella n. sp.

- roborella n. sp.
oregonella Busck.
multistriatella n. sp.
Rileyi n. sp.

- molybdanella n. sp.
geniculatella n. sp.
arcella Fab.

auripulvella Ch.
 acapnopennella Clem.
 defectella Zell.
 apicisignatella n. sp.
 angulifasciella n. sp.
 marmorella Ch.
 fuscomaculella Ch.
 granella L.
 cloacella Haw.
 interstitiella n. sp.
 fulvisuffusella n. sp.
 maculabella Ch.
 marginimaculella Ch.
 fuscopulvella Ch.
 nigroatomella n. sp.

Homostinea gen. n.
 curvistrigella. n sp.

Tineola H. Sch.
 biselliella Haw.

Tenaga Clem.
 pomiliella Clem.

Hybroma Clem.
 servulella Clem.

Triptodema gen. n.
 sepulchrella n. sp.

Eudarcia Clem.
 simulatricella Clem.
 caemitariella Ch.

Progona gen. n.
 Skinnerella n. sp.
 bipunctella n. sp.
 floridella n. sp.

Homosetia Clem.
 subgenus *Diachorisia*.
 velatella Clem.
 subgenus *Calostinea*.
 argentistrigella Ch.
 argentinotella Ch.
 subgenus *Homosetia*.
 cristatella Ch.
 confusella n. sp.
 chrysoadpersella n. sp.
 costisignella Clem.
 fasciella Ch.
 maculatella n. sp.
 subgenus *Stenoptinea*.
 ornatella n. sp.
 auriferella n. sp.
 ??
 ? septemstrigella Ch.
 ? heteropalpella n. sp.
 ? martinella Wlk.
 ? afflictella Wlk.

Leucomele gen. n.
 miriamella n. sp.

Cenæ Ch.
 hybromella Ch.

EXPLANATION OF PLATES.

PLATE I.

- Fig. 1. Forewing of *Amydria dyarella*.
 " 2. " " *Apotomia fractiliniella*.
 " 3. " " *Tryptodema sepulchrella*.
 " 4. ? *Incurvaria rheumapterella*.
 " 5. " " *Homosetia ? septemstrigella*.
 " 6. " " *Semiota operosella*.
 " 7. " " *Xylesthia kearfottella*.
 " 8. " " *Scardia approximata*.

PLATE II.

- Fig. 1. Forewing of *Scardia fuscifasciella*.
 " 2. " " *Tinea geniculatella*.
 " 3. " " *Tinea roborella*.
 " 4. " " *Progonia skinnerella*.
 " 5. " " *Tinea multistriatella*.
 " 6. " " *Tinea arcella*.
 " 7. " " *Tinea angulifasciella*.
 " 8. " " *Homosetia chrysoadpersella*.

PLATE III.

- Fig. 1. Forewing of *Tinea mandarinella*.
 " 2. " " *Tinea fuscomaculella*.
 " 3. " " *Homosetia ? heteropalpella*.
 " 4. " " *Tinea nigroatomella*.
 " 5. " " *Amydria margoricella*.
 " 6. " " *Tinea ophrionella*.
 " 7. " " *Tinea molybdanella*.
 " 8. " " *Leucomele miriamella*.

PLATE IV.

- Fig. 1. Neuration of *Amydria efrenatella*.
 " 2. " " *Epilegis cariosella*.
 " 3. Neuration (hind wing) of *Homosetia (Stenoptinea) ornatella*.
 " 4. " (fore wing) of *Apotomia fractiliniella*.
 " 5. " of *Paraneura simulella*.
 " 6. " " *Apreta paradozella*.
 " 7. " " *Epichieta nepotella*.

PLATE V.

- Fig. 1. Neurulation of *Abacobia carbonella*.
 " 2. " " *Homosetia costisignella*.
 " 3. " " *Hybroma servulella*.
 " 4. " " *Breckenridgia acerifoliella*.
 " 5. " " *Isocarypha mediotriatella*.
 " 6. " " *Homosetia* (*Calostinea*) *argentinotella*.
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PLATE VI.

- Fig. 1. Neurulation of *Progonu bipunctella*.
 " 2. " " *Tryptodema sepulchrella*.
 " 3. " " *Tenaga pomiliella*.
 " 4. " " *Semiota inamænella*.
 " 5. " " *Cyane resaliella*.
 " 6. " " *Cænæ hybromella*.
 " 7. " " *Lencomele miriamella*.
 " 8. " " *Homostinea curviliniella*.
 " 9. Head and palpi of *Abacobia carbonella*.
 " 10. " " palpus of *Epichæta nepotella*.
 " 11. " " " " *Apreta paradoxella*.
 " 12. Hind tarsus of *Apreta paradoxella*.

ERRATA.

Page 3, line 15 from top, should read *Setomorpha* instead of *Setamorpha*.

" 3, line 7 from bottom, should read *third joint generally flattened* instead of *third joint flattened*.

" 4, line 6 from bottom, should read *perpendicular* instead of *perpendicle*.

" 5, line 7 from top, should read **brevipennella** instead of **brenipennella**.

" 5, line 13 from top, should read *or* instead of *as*.

" 7, line 15 from top, should read *or* instead of *as*.

" 7, line 17 from top, should read *or* instead of *as*.

" 10, line 22 from bottom, should read *appressed* instead of *oppressed*.

" 10, line 17 from top, should read **margorieella** instead of **margoriella**

" 11, line 20 from bottom, " " " " " "

" 18, line 22 from top, should read **operosella** instead of **operaosella**.

" 22, line 3 from bottom, should read **Greya** instead of **Graya**.

" 22, line 3 from bottom, should read *Antennæ of ♂ ciliated* instead of *Antennæ ciliated*.

" 24, line 13 from top, should read **fuscofasciella** instead of **fuscafas-ciella**.

" 24, line 15 from top, should read **burkerella** instead of **buskerella**.

" 31, line 17 from bottom, should read *Ithaca* instead of *Ithica*.

" 33, line 12 from top, should read *interior* instead of *anterior*.

" 36, line 5 from top, should read **russatella** instead of **rusticella**.

" 41, line 5 from bottom, should read *piliform* instead of *filiform*.

" 51, line 17 from bottom, should read *discal* instead of *dorsal*.

" 54, line 17 from bottom, should read *piliform* instead of *filiform*.

" 58, lines 14-15 from top, should read

Costal spot extending into disc **roburella**.

Costal spot not extending into disc.

" 64, line 19 from bottom, should read *minutipulvella* instead of *minutipulnella*.

" 72, line 9 from bottom, should read *angulated* instead of *angutated*.

" 74, line 17 from top, should read *cell open between stem of 5 and 6 and vein 7* instead of *cell open between stem of 5 and 6*.

" 76, line 8 from top, should read *pointed* instead of *jointed*.

" 79, line 20 from top, should read *species* instead of *specimen*.

" 92, line 7 from top, should read *Burkerella* instead of *Busckerella*.

" 92, line 5 from top, should read *chrysurella* instead of *chrysorella*.